THE INTERNATIONAL JOURNAL OF BUSINESS & MANAGEMENT

Commercial Poultry Enterprises in Kashmir Valley: A Value Chain Analysis

Mohammad Mubasher Hassan

Research Scholar, J&K EDI

Dr. Khursheed Shah

Technical Officer, Directorate of Animal Husbandry

Abstract.

Poultry sector in general has had progress; this can be identified by the presence of growing number of poultry farms for, which is with collective effort of government and entrepreneurs' in the valley. The sector has an enormous potential to provide sustainable livelihood to both rural and urban youth of the valley through employment and increased income, besides providing improved food supply. A limited amount of information was found while conducting a detailed analysis of the entire poultry supply chain, from an economic and strategic perspective, for the want of poultry development institute in the state of J&K that could work for Research and Development, Data collection and information bank for poultry farmers. The study considers the Value chain framework to qualitatively assess poultry business for illustrating key and support activities, in order to conduct SWOT analysis of the sector and lists the gaps identified and potential interventions to be undertaken. Despite of the lucrative business opportunities the sector offers, the entire supply chain in this sector is under full control of exporters outside valley, as our entrepreneurs in this sector venture only into a small part of its entire value addition process i.e, rearing of day old chick to maturity and don't venture into other activities of higher order of the supply chain for the want of capital, technical know-how and the policy support, consequent upon such structural deficiencies our valley is yet to achieve sustainable and integrated commercial poultry development for import substitution to meet high domestic demand.

Key words: Poultry Business, Value Chain Analysis, SWOT Analysis

1. Introduction

Poultry occupies a unique position in the livestock economy of the valley, in last few decades valleys has rapidly transited from backyard to commercial poultry. The prospect of commercial poultry farming in the Kashmir valley is considered excellent based on the domestic market, when it is considered from, in terms of supply and demand of the Industry. On the supply aspect, the production capacity of the poultry farms has yet to reach the real production capacity as is evident from the increasing import of Live birds, Day old chicks, Table eggs, Poultry feed and Poultry medicine from outside the state, it is an indication that the prospects of commercial poultry development are yet to be explored.

2. Objectives of the Study

In order to conduct a study that benefits the industry and stakeholders involved. The following objectives need to be undertaken and core problem areas need to be elaborated:

- To estimate the status and performance of the commercial poultry sector
- To identify the various stakeholders and role players in the poultry sector
- To identify constraints and opportunities of poultry production and marketing

3. Status of Poultry Sector in Kashmir

The current status of the poultry sector in Kashmir valley can be reported under the heads of Number of farming units established, Employment generated and Import dependence

3.1. Number of Poultry Farms

As it can be seen from the records of Directorate of Animal Husbandry, the commercial poultry sector, given its high returns and less gestation period compared to other livestock sectors, is flourishing with private investments increasing manifolds with each passing year across all the districts of Valley and can be tabulated as:

S.No	District	Year		
		2010-11	2011-12	2012-13
1	Kupwara	35	41	55
2	Srinagar	80	99	191
3	Anantnag	289	306	334
4	Kulgam	130	190	210
5	Bandipora	105	124	145
6	Pulwama	804	941	1050
7	Ganderbal	167	172	169
8	Shopian	20	26	43
9	Baramulla	290	337	413
10	Budgam	310	490	565
11	Kargil	0	6	11
12	Leh	0	11	11
	Total	2200	2743	3197

Table 1: District wise list of private poultry farms of Kashmir Valley Source: Directorate of Animal Husbandry.

3.2. Employment Generated

The employment level in poultry sector is of direct and indirect nature, as every farm employ at least 2 persons directly for its normal performance, indirectly Input suppliers, Output dealers, retailers and veterinary consultants earn their livelihood that is drawn from poultry related activities, for the sake of continence and time constraints we consider only personnel directly involved for estimating employment generation in this sector with breakup tabulated below:

S.No	District	Year		
		2010-11	2011-12	2011-13
1	Kupwara	70	82	110
2	Srinagar	160	198	382
3	Anantnag	578	612	668
4	Kulgam	260	380	420
5	Bandipora	210	248	290
6	Pulwama	1608	1882	2100
7	Ganderbal	334	344	338
8	Shopian	40	52	86
9	Baramulla	580	674	826
10	Budgam	620	980	1130
11	Kargil	0	12	22
12	Leh	0	22	22
	Total	4,460	5,486	6,394

Table 2: District wise list of private poultry farms of Kashmir Valley Source: Directorate of Animal Husbandry.

3.3. Import Dependence

There is a high reliance of imports in terms of Day old chicks, Table eggs and Table birds in the valley for which the domestic production can't suffice, as can the confirmed from the official data.

Year	Day old Chick	Eggs	Table Birds
2009-10	182	171	115.94
2010-11	218	247	92.80
2011-12	292	328	114.73
2012-13	310	313	110.35

Table 3

Source: Directorate of Animal Husbandry (Units in lakhs)

3.4. Socio-Economic Characteristics of Poultry Farmers

These were discussed under gender, age, educational level, years of farming experience and farm size and are tabulated below:

Characteristics	Frequency	Percentage
Gender		
Male	135	
Female	19	
Age		
18-37		100%
>38		
Educational level		
>10+2		
10+2	103	
Graduates and above	51	
Years of Farming experience		
0-5		100%
6-10		
>10		
Farm size		
<2000	102	
2000-4000	10	
>4000	42	

Table 4

Source: Field data from Seed capital fund scheme

The socio-economic characteristics of commercial poultry farmers' indicated that male population was more involved in farming and as per age, maximum of farmers are in their active age and have the capacity to produce efficiently. The findings also showed that majority of the sampled farmers were literate having finished their schooling.

4. Data collection and Methodology

In order to obtain an objective view from sector role players regarding the current trends and issues in the poultry sector, background desktop studies were conducted to structure the current workings of the sector. To answer certain research questions, the report is primarily based on inputs provided by consultations with researchers, officials in the Directorate of Animal husbandry specifically from Poultry wing, key informant interviews with individuals who are practitioners, focus group discussion (FGDs), field observations based on structured questionnaires. Secondary data wherever needed for the preparation of report, was provided, by the Department of Animal Husbandry.

As the entire poultry supply chain can be divided into various sub-sectors, therefore having Extended Value Chain Network, the Value Chain Analysis (VCA) undertaken in the present study is of Broiler grow-out stage, which is the only poultry sub-sector practiced in the valley in order to examine its core and support activities, then SWOT analysis was conducted for finding Gaps their evident causes and possible interventions to bridge those gaps in future.

5. Participants in Poultry Supply Chain

5.1. Parent Stock Enterprise

There is a real need to establish parent stock farms from where hatcheries may get eggs of right genetic strain that is considered in the industry to be having good white meat yield, competitive on feed conversion and relatively easy to manage, otherwise farmers of valley are totally dependent upon the conscience of outside valley exporters and are often supplied with whole or in proportion with the birds that are most challenging to manage due to their low immunity level, poor genetic capacity to grow. Thus the need of the parent stock farming arises.

5.2. Hatchery Enterprise

The hatchery is the starting point for controlling live bird health. The genetic quality and quantity of day old chicks imported in the valley in controlled by firms located in mostly in Punjab that have a questionable supply record of exports to the valley. Thus attracting entrepreneurs to venture into this business or to subsidize existing farmers to upgrade vertically is most important for the sustainability and control over supply chain of poultry sector. As of now there are only 3 hatcheries existing in valley, which are in public sector with their output level given in table below:

S.No	Hatchery Location	Hatching Capacity (per month)
1	Hariparbath	31500
2	Mattan	30000
3	Shopian	15600
	Total	77,100

Table 5: Hatching capacity of poultry hatcheries of Kashmir Division Source: Directorate of Animal Husbandry.

5.3. Layer Farming Enterprise (for Egg)

Layer type breeder farms are relatively not that difficult to rear and manage as compared to broiler breeder stock. Yet there is not a single parent breeding farm in private sector in valley. Thence having a parent stock farm producing sufficient table eggs for local consumption is a competitive advantage.

5.4. Broiler Grow-Out Enterprise

The poultry growers usually keep around 2000 birds due to project cost constraint whereas the optimum is of 4000 birds per cycle for majority of faring units, (in view of the limited rearing season, a unit of 4000 chicks would be preferable over 2000 chick unit when annual returns are considered) this broiler grow-out is a seasonal activity for many farmers who have undertaken it as a subsistence activity that begins in the spring time and runs for eight to nine months with 6 to 7 growing cycles possible. The commercial poultry in valley is mainly owner controlled where all the investments and risks associated are borne by the farmer himself. This differs from the latest poultry business models of contract farming recently explored and in vogue in country, where broilers are grown under a contract for the integrator firm. In this arrangement the integrator places day-old-chicks and feed on private farms, as well as periodic management oversight of the broilers. The farmers are paid based on the live weight sent to the integrator firms slaughter facility and a premium for few benchmarks like feed efficiency, mortality and flock uniformity.

5.5. Feed Mill Enterprise

The greatest cost savings potential are in the feed enterprise, there are no small or large scale private feed mills or feed analytic labs in the valley. The farmers import feed the quality of which is often of poor quality and relatively expensive, and based on ingredients that may not maximize growth of chick as projected. Poorly made feed can also be a carrier of important toxins, molds and diseases. Since feed contributes at least 70% of the total cost of producing a kilogram of chicken meat, it is extremely important for poultry farmers and other stake holders like Animal Husbandry Department to have competent feed purchaser, controlled and large storage facilities ,low cost transportation, precision feed formulation, reliable feed ingredient testing of all imported feed, till entrepreneurs from the valley will be attracted to venture in feed production.

5.6. Meat Processing And Packaging Enterprise

This activity and potential business opportunity is in an infancy stage in valley, which requires heavy budgets for social advertising and government support by framing regulation regarding slaughtering procedures, product quality and packaging standard, to make general public well be aware about hygienic and nutritional value of the final product, so that entrepreneurs will be attracted to undertake this venture.

5.7. Distribution

The Poultry farmers utilize 3 marketing nodes; at home, brokers visiting or when requesting to come and buy hatch this offloads the burden of taking the chicken and waiting for the customer. Given the erratic supply the chicken prices vary by chicken size and seasonal demand due festivals, marriages and events.

6. Value Chain Analysis Model

The essence of value chain analysis is to improve strategic learning in enterprise development. Specifically it treats the enterprise not as a singular (Autonomous) entity, but as part of an integrated chain of economic functions and linkages, it emphasizes on the diverse interrelationships among market opportunities, constraints and directives at various levels of the supply chain and at different levels of influence, from which specific value-addition takes place, in other words identifying key points of intervention along the chain and to recommend specific policy directions to enhance the competitiveness. This feature of the VCA lends to its completeness, as a strategic tool in exploring different alternative strategies for poverty and unemployment reduction.

The different participants across the entire supply chain behave on the conditions set forth by different market policies, technological advancements and socio-economic concerns. Thus VCA model integrates analysis of the product supply chain and that of the associated enabling environment, which can be divided into two (i) Primary Activities and (ii) Support Activities.

6.1. Primary Activities

Primary activities are those functions which are directly involved in the production, processing, and distribution of the product. These activities fall among the following: Inbound Logistics, Production & Processing, and Outbound Logistics. Inbound logistics refer to management of production and processing inputs; whereas, outbound logistics pertain to product distribution from point of production to final consumption. The production and processing components is involved in the actual manufacture of products ready for sale.

6.2. Support Activities

While support activities are not directly involved in the manufacture and movement off the product, these activities have critical impact on the efficiency of production and distribution, Support activities serve as the value chains enabling environment. These support activities include: (1) Policies and Regulations,(2) Infrastructure & Enterprise development facilities (3) Research & Technology (4) Market information & Finance.

ACTIVITIES	• MEASUREMENT
Pr	imary Activities
Inbound logistics (Activities at the farm level)	Support for training of farmers.
	Selection of Strain.
	 Import of Day old chick, Feed & Medicine.
Operational activities (Production & Processing)	Holding facility.
	Feeding schedule.
	Watering facility.
	Fumigation.
	 Vaccination.
	Temperature regulation.
	Sanitation.
Outbound activities (Product Distribution)	Transporting to market directly or
	Supply to dealers
Su	pport Activities
Policies & Regulations	 To create Schemes conducive for poultry
	development.
	 Initiatives taken for Supply chain development.
	Rationality of Taxation laws.
Infrastructure & Enterprise Development	 Investments made by Government.
	 Sector specific trainings to Entrepreneurs.
	 Capacity building of farmers.
	 Upgrading farms to higher order of Supply chain.
	 Veterinary support provided.
	 Industry/Sectoral Association.
Research & Technology	 Establishment of Poultry Development Institute.
	 Genetic resource development.
	 Data collection & Information sharing regarding
	new Research.
	Disease Management.
	Procurement of latest farm equipment.
Market Development & Finance	Establishment of District wise wholesale/retail
	centers, Slaughter, Store & packaging facilities.
	Pricing & Market information system.
	Credit for Working capital requirement.
	Credit for infrastructure requirement.

Table 6

7. Poultry Development: Constraints and Opportunities

A SWOT analysis is appended below in table 7, this analysis helps to identify the stages at which the opportunities can be capitalized and improvements are made. In order to keep pace with competition from outside valley and are tabulated below:

Stage	Strengths	Weakness
Market Level	 Large rural and urban market. Growing demand Established marketing channels. Chicken market is largely unexploited in valley. 	 Lack of sensitization of the potential of poultry as an income generating activity. Low technological level. Sub-optimal level of production. Strong position of dealers.(influence on prices). Absence of product marketing. No parent stock operations in valley
Farm level	 Integral part of culture Relative low staff cost Low capital intensive Low skill intensive. Quick returns on investments. Poultry enterprises relatively are environmentally friendly. 	 Professional knowledge limited Low quality breeds reared with high maturity period. High feed and feed supplement costs Poor access to institutional credit Over-reliance on inputs (Feed and Medicine) from outside Inadequate veterinary health infrastructure. Insufficient activities towards. improving genetically qualitative breed. Insufficient measures of bio-security.
	Opportunities	Threats
Market Level	 Traditional and unhygienic way of slaughtering. Unpacked and uncertified way of sales. Processing to add value to chicken products (Packed) Make associations to get stronger market positions Consumer awareness about food safety 	 Strong competition from outside valley. High costs for domestically produced products and low price competitiveness. Poor distribution network of input suppliers including feed and drug suppliers. Expansion in imports.
Farm Level	 Maximizing of production to take advantage of economies of scale. Establishment and expansion of vertical integration. Make associations for procuring of inputs. Introduce Contract/Cooperative farming. 	 Rearing of breeds with low efficiency conversion and longer maturity period due to genetic limitation. Chicken flock is highly susceptible to disease outbreak especially airborne diseases. High power costs.

Table 7

8. Findings and Policy Implications

In order to make sustained and planned efforts in right direction, the below listed findings regarding various Gaps that exist in poultry sector, their evident causes and possible interventions are tabulated below:

Gaps	Causes	Possible Intervention
No Industrial status No comprehensive poultry farming policy	Given the potential and performance the sector, it is yet to receive an Agriculture or Industrial status consequent upon which it has been neglected w.r.t interventions.	 Animal Husbadry, Employment Deptts. & JKEDI could lobby into formulating policies for integrated poultry sector in valley. Formulate schemes as per the needs of poultry sub-sectors development
Un-controlled Supply chain.	Over dependence on Imports.	 Elevate to Industrial or Agriculture status. Subsidize and Train Entrepreneurs and existing Farmers for integrated farming.
Grand Parent farming	 Lack of Skill infusion. Lack of Infrastructure. Insufficient of Institutional Support. Lack of Entrepreneurial capability 	 Provide Policy support. Launch sector specific schemes. Organize Entrepreneurship awareness programs.
Parent Farming	 Lack of Grandparent farming Longer Gestation period Absence of Hatcheries Absence of low cost feed 	 Upgrade existing poultry farms by subsidies. Subsidize feed transportation. Subsidize Parent farming equipment.
Hatchery	 Lack of Parent farming business. Capital Intensive. Power outages. Low Input supply. 	
Feed Production	Non availability of Raw material.Erratic power supply.High Transportation costs.	 Indigenize feed resources by Contract farming of raw material within state. Attract entrepreneurs by specific schemes for developing SSI units.
Weak access to credit	 Reluctance of banks to lend due to risky nature of business. 	 Sector specific schemes should be launched by banks.
High risk	 No Insurance cover available for grow-out farmers. 	Provide Insurance cover on lines of live-stock Insurance.
Inadequate Human Resource Development	 Entrepreneurs not aware about sector specific skills needed in integrated poultry development. 	 Create institutional mechanism for Skill infusion. Launch awareness programs regarding skill development at village, college level.
Sub-optimal Production	 Under-estimated Project cost. Insufficient working capital. 	 Frame specific working capital schemes. Introduce Latest Technology of farming equipment.
Weak Inter-Agency Linkages	 Lack of coordination among farmers & institutions. 	 Built linkages among farmers in order to have synergic effect by way of seminars and workshops. Improve awareness level
Market under- developed	 Limited supply of quality chicken Lack of reliable supply system High reliance on imports High wear-housing costs due to inefficient supply system. Exporters dominate valleys market. 	 Build Tehseel- wise Markets. Introduce quota system in imports for live birds.

Price Fixation	 Low margins Prices fixed by CAPD. Input cost/Kg of valley farmers not considered. 	 Prices should be revised seasonally. Prices should be set in consultations with A.H officers & Representatives of Poultry farmers
High operational costs	All the farm inputs are imported.	 Set priority procurement policy for poultry centered diversified farming system. Give Transport subsidies with a sunset clause.
Mismanagement of farms	 Lack of desired strain. Poor housing. Feed Quality not known. Lack of consultation. Faults in Bio-security. Medication Abuse 	 Expert Supervision & Monitoring over poultry imports. Regular visits by Veterinarians. Sensitizing farmers towards scientific nature of enterprise.
Inadequate Veterinary Infrastructure	Insufficient budget allocation.Insufficient Veterinarians.	Promote Entrepreneurship culture among Unemployed Veterinary graduates.
Undeveloped Processed chicken business segment.	 No regulatory standard in force. No consumer awareness w.r.t hygiene of slaughtered chicken. No slaughter & packaging Infrastructure in public or private sector. 	 Built missing Infrastructure by attracting entrepreneurs in this segment. Rationalize taxation for investing back in poultry development.
Lack of Problem- oriented Research.	 Data challenges for overall analysis. Lack of Structured impetus w.r.t resource base and livelihood strategies. No feedback from farmers. Institutional Weaknesses. 	Create Research & Development Institute on line of Central Poultry Development Organization (CPDO)

Table 8

9. Results & Discussion

The main findings of the study are that, poultry enterprises are less business oriented and ,therefore, weak and undeveloped besides, owing to the huge reliance on imports of Day old chicks, medicine and feed from various export firms operating outside valley, the performances of the poultry enterprises are largely related to quality of inputs used and intensity of production activities. Further, sustainable performance in grow-out poultry farming was characterized by awareness of trade secrets and stronger links between experienced farmers and suppliers, however not all relationships were mutually beneficial for the want of trust mostly between inexperienced farmer and suppliers. The farmer-supplier relationship is largely supplier driven and involved ad-hoc trading which weakened business relations and therefore performance of poultry farms, as there is no monitoring or supervisory control of experts from Animal Husbandry Department over the transactions among farmers, suppliers and exporters, which mostly works on trust, and this greatly hinders the capacity of the poultry sector to capitalize on its strengths and seize the opportunity for import substitution eventually.

It has been established by our surveys that farmers practicing poultry management on scientific lines have a significant influence on the reduction of chick mortality & optimal hatch size. Reduction in chick mortality also means higher efficiency, one of the strategies for gaining a competitive advantage over rival farms.

The findings of this study suggest that the poultry farming must overcome sub-sectoral and structural constraints in order to take advantage of available opportunities. An association of farmers could improve product quantity and quality through information sharing, collective interaction with service providers, disease control and collaborative marketing for better prices. There is also an absence of a processing function on the poultry value chain that implies poultry meat cannot be presented to the consumers in ready to use form which reduces the time for meal preparation & is hygienic also.

10. Recommendations

As revealed by this study commercial poultry has the potential to exist in an integrated way in our valley thereby, making poultry sector self-sufficient with significant capacity of income and employment generation for farmers and unemployed youth, specifically a large number of employment opportunities will be created both in primary activities and support activities in the

value chains of each sub-sector of poultry for unskilled laborers to unemployed veterinarians. The consumer will also benefit for the value they pay for the final product. On the basis of our study the following recommendations are necessary:

- Giving Industry or Agriculture status and Subsidies with Sunset clause for poultry centered diversified farming.
- Should be considered by Banks for Priority sector lending.
- Coordination among stake holders that bring down barriers and promotes interaction between farmers and service
 providers including veterinary officers, financial institutions and feed suppliers is essential for integrated poultry
 development in valley; this could be done through workshops or Focus Group Discussions.
- Developing poultry farming as a business by conducting awareness camps, workshops, seminars among prospective entrepreneurs showing interest in respective sub-sector of integrated poultry farming.
- Training should be provided at intensive scale at mobile camps across valley in the following aspects disease management, Construction of chicken housing on modern lines, Breed selection as per efficiency conversion, Sanitation and Feeding procedure.
- Launching of schemes that are specific for each sub-sector development like parent farming, Hatchery and feed production businesses.
- Follow-up support will be essential in order to actualize the training content and scheme implementation.
- Designing specific working capital loan products for farmers in order to rear optimal number of birds, which presently is round about 4000 chicks to break even.
- Capacity building subsidies have to be factored in within the intervention, whether direct or indirect in facilitation of veterinary services, flock building, and transition of some high performing grow-out farms into parent farming to gain over all control of supply chain.
- Relationship building among all existing poultry farmers based on self-interest, business vision in order to exercise
 bargaining power over feed suppliers, and overall dissemination of market information and awareness creation for
 efficient functioning.
- Retail rates of broilers should be fixed by experts of Animal Husbandry Department and representatives of farmers on the basis of production costs.
- Establishment of Poultry *mandis* on the analogy of Fruit *mandis* at every district headquarter where the farmers and retailers shall be handling the market directly
- Establishment of Research & Development institute for integrated poultry sector development for data collection, information dissemination, disease control and strain improvement on line of Central poultry Development Organization.
- Development of insurance cover for poultry farmers on lines of live-stock insurance.
- Orchestrate Public Private Partnership for vertical integration, contract farming and cooperative farming to face challenges from outside States.

11. Limitations of the Study

The most obvious limitations of the study has been firstly, its time consuming and extensive field work nature, due to which the survey was confined to only one region of the state of Jammu & Kashmir, viz: Kashmir valley only mainly because of the fact that the state has three regions with completely different socio-economic, geographic profile with differing resource base in terms of flora and fauna. Secondly the present study has relied largely on qualitative methodology as a result of which content analysis and statistical conclusions could not be made and is therefore restrictive. Hence research studies with much larger sample size should be required to ensure appropriate generalization of the findings of the study. This is an unavoidable limitation of the study.

12. Conclusion

This report explored the commercial poultry value chain with regard to how the activities and relationships of the stakeholders influence the performance of the sector. This knowledge could potentially increase the efficiency of the commercial poultry sector for the large number of poultry farmers. The poultry farming, which tends to be a full—time activity, was generally found to be less business-oriented and under-developed. The general low production and disregard for market development by all stakeholders have negative influences on performance, these factors make the industry less competitive with respect to product supply and standards. A collective strengthening and upgrading of local farmers and establishment of market and support institutions, currently absent or under-performing, could improve product quantity and quality through information sharing, collective interaction and disease control.

The findings from this study suggest that efforts to advance the development of the poultry sector in valley will require a shift in development orientation based on the assumption that integrated poultry development is in itself a sufficient outcome. In conclusion, sustainable improvements in poultry farming can be achieved, with schemes that promote and nurture its sub-sectors.

13. Scope for Further Research

The replication of the study at other two regions of Jammu & Kashmir state viz, Jammu division and Ladhak division would enable better generazibility of the findings of the study, besides, an effort can be made to compare and contrast the resource endowments of poultry farmers in various regions of state under broad indicators like, Educational attainment, Per capita Income, Geni-coefficient, social inclusion, official development assistance, extent of youth involvements, other sources of Income and Inter and Intra comparisons with other livestock farmer like sheep farmers, dairy farmer, across the three regions of the State of Jammu & Kashmir. Also in future study more of the quantitative methodology should be undertaken to provide wider

perspective of the present study which may include in its research design case study methodology and content analysis to provide a holistic picture of the sector.

14. References

- 1. Aga Khan Foundation, May 2005. Workshop on Rural Incomes and Employment in Coastal Kenya 10th to 12 th May 2005, Serena Hotel Mombasa. CRSP (K), Mariakani.
- 2. De Beer, J. 2009. A Partial Equilibrium Model for the South African Broiler Industry. Unpublished M.Sc thesis. University of Pretoria.
- 3. Fowler B., April 2004. Analysis of the Indigenous Poultry Sub-sector in Kwale and Kilifi Districts of Kenya; Preliminary Findings. Coastal Rural Support Programme Kenya, Mariakani.
- 4. Gira Food. 2002. Strategies and opportunities for the Next 10 Years in EU Processed Meat Markets 1996 2005/6 2011 2016. Online: http://www.girafood.com/data/files/Differentiation_in_Meat.pdf Accessed 2010/01/29.
- 5. Groenewald, A. 2008. Suitable chain strategies for the delivery of naturally fed beef from the Limpopo province. Unpublished MBA thesis, University of Pretoria.
- 6. Gezahegn A. Dorene M. Birol, Devesh. 2009. Investigating the role of poultry in livelihoods and the potential impact of HPAI on livelihoods in Ethiopia . Research Report.
- 7. Labuscagne, A. 2007. A consumer-orientated study of the South African beef supply chain. Unpublished MBA thesis, University of Pretoria.
- 8. Louw, A., Geyser, J.M. & Schoeman, J.J. 2010. Pork and Broiler Industry Supply Chain Study with Emphasis on Feed and Feed-Related Issues. University of Pretoria, NAMC report.
- 9. Porter M Competitive Advantage: Creating and sustaining superior performance. New York: The Free Press, 1980.

15. Questionnaire Format

- 1. Name:
- 2. Gender:
- 3. Qualification:
- 4. Address:
- 5. Scale of operation:
- 6. Farming Experience:
- 7. Age:
- 8. Did the producers have been trained:
- 9. What are the problems with Production:
- 10. What are the problems with Price:
- 11. What are the problems with Market:
- 12. Any problems related to the finance: