



## Enhancing Backyard Poultry Enterprise Performance in the Techiman Area of Ghana: A Value Chain Approach

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*Backyard poultry enterprise is one of the enterprise development interventions for the Enhancing Child Nutrition through Animal Source food Management (ENAM) project designed to address the effects of poverty on household food security and child nutrition in Ghana. The value chain approach was used to examine how the involvement of different actors, activities of actors and relationships between actors, including value chain support services, affects its performance and how these can be improved. Qualitative data were collected via group and individual interviews with community key informants, backyard chicken farmers, backyard chicken farm input dealers, backyard chicken farm product dealers, backyard poultry farm product consumers, traditional community leaders and extension service providers. A total of 80 respondents were interviewed and findings revealed the existence of a significant market for indigenous backyard chicken. However, constraints such as diseases, poor market organization, low level of cooperation among producers, and limited levels of support services to the industry were preventing the industry from seizing that opportunity. Team members also identified the opportunities that exist to strengthen the weak links precipitated by the constraints along the backyard poultry value chain. Recommendations for the appropriate organization of the ENAM project intensive backyard poultry egg production to ensure high performance and sustainability in the Techiman area are provided. In many cases, government intervention, assistance and regulation is necessary. For example, if the control of Newcastle disease, a major challenge to the enterprise, can become a free public good, a very challenging obstacle to the viability of backyard poultry production can be removed.*

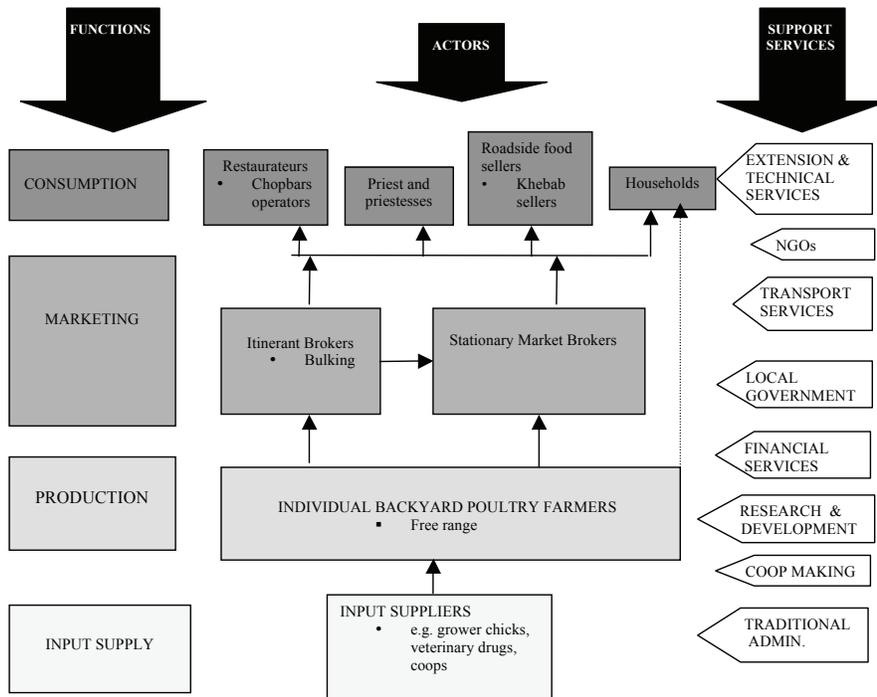
### Background

One of the best opportunities for increasing animal protein production in Africa is poultry farming. Rural poultry alone provides 70% of poultry products and 20% of animal protein intake in most African countries (Awuni et al, 2006). In Ghana, backyard poultry is the most widespread agricultural enterprise and accounts for 60 – 80% of the national poultry population (Aning, 2006; MoFA, 2002). Nevertheless, inadequate production has resulted in low per capita consumption of poultry products (about 10% of the world average) (Aning, 2006). There is a large shortfall in the supply of chicken in Ghana with about 44,000 metric tones of poultry meat imported annually. There is evidence to show that several interventions aimed at improving the backyard poultry have so far been limited to the production elements rather than improving the whole *value chain* (Kitalyi, 1997; Jensen, 2000). *Value chain* refers to all the activities and services that bring a product (or a service) from its conception to its end use in a particular industry. Taking a value chain approach means identifying and addressing the major constraints and opportunities faced by businesses at multiple levels of a given value chain (not just “producers” or “marketing” but the industry as a whole).

This orientation disregards the social, cultural and organizational processes that play important roles in the backyard chicken enterprise. Moreover, the current thinking on agricultural innovation embodies technical, social relational and organizational aspects (Leeuwis, 2004 p.61). Sustainable improvement in the backyard poultry sector must be organizational, not technical (Ahuja & Sen, 2007; Mwalusanya et al. 2002; Permin et al., 2006). Despite the important contributions that a value chain window of analysis can make to enhance enterprise performance through effective extension interventions, there are hardly any studies on the backyard poultry enterprise. The objectives of the study were therefore:

- 1) To determine what constitutes backyard poultry value chain and its performance in the Techiman area;
- 2) To determine the social or organizational relationships among the individuals or groups and institutions in the backyard poultry enterprise in the Techiman area; and
- 3) To identify opportunities and constraints along the backyard poultry value chain in the Techiman area.

Figure 1. The basic backyard poultry value chain map in the Techiman area.



backyard chicken farmers, brokers (bulks small quantities of chickens), restaurateurs, traditional religious priests and priestesses, roadside food sellers and households. The support services involved extension and technical services, non-governmental organizations, transport services, local government administration, financial services, research and development, coop-making services and traditional administration.

### Performance of the chain

*Functions.* Input supply is limited to the supply of grower chicks, veterinary drugs and chicken coops. The supplies are mainly made on request and are generally local products.

**Methods.** The two ENAM project communities in the forest transitional agro-ecological zone of Ghana were selected for the study. For each community, a four day pre-study reconnaissance survey was undertaken. An off-field value chain map was constructed for the backyard poultry value chain to identify the stakeholders/actors. The process of selecting subjects for the study in a community began with a fact finding meeting involving 10 key informants who were earlier identified by community leaders. The key informants provided a sample frame of backyard chicken farmers with the aid of a community map. The list was further classified into two categories of highly and less successful farmers. For each community, 10 farmers were randomly selected from each list. Group and individual face-to-face interviews were conducted with the farmers. Many other available stakeholders were also interviewed, though the number was limited. Data collection instruments used included interview schedules, backyard chicken value chain map and buyer benchmarking of chicken meat.

### Major Findings

Over 95% of households at the sites were already involved in the backyard indigenous chicken enterprise, which was the only regular source of eggs and poultry meat for consumption by all households.

**The backyard poultry value chain.** The main components in the Techiman area basic backyard poultry value chain map were input supply, production, marketing and consumption (Figure 1). The Actors were made up of input suppliers,

*Actors.* Although a number of actors have been identified, none is a full time actor in any of the functions except a few itinerant exotic grower chick dealers that occasionally supply breeder chicks. The main product produced and moved along the chain is live birds of varying ages, sexes and purposes.

*Support services.* There are several that have at one time or the other provided services to the backyard poultry value chain but are presently dormant.

### Social or organizational relationships

*Vertical linkages.* There are clearly defined, although erratic, relationships between the actors at the various functional levels. The linkages are active only when the product of the value chain is available or needed.

*Horizontal linkages.* There are scarcely any relationships between actors at the same functional level with the exception of those which exist among brokers. Specialization and cooperative activities are nonexistent along the value chain. There is also no permanent relationship between any actor and service provider.

### End market analysis for backyard poultry production.

The end-market buyers (actors of the consumption function on Poultry value chain) look for the following chicken attributes (benchmarks): quality, meatiness, price, religious suitability, supply volume and regularity of supply when buying chicken (Table 1).

Table 1. Competitiveness analysis of indigenous and exotic chicken attributes/benchmarks.

Attribute/ Benchmark	Indigenous chicken	Exotic chicken
Quality	Ideal taste and toughness for Ghanaian cooking	Very tender and mainly ideal for exotic dishes
Meatiness	Less meaty	Very meaty
Price	High price due to poor supply	Moderate price
Religious suitability	Preferred breed for traditional religious rites	Not acceptable for traditional religious rites
Supply volume	Production and supply volume are low (brokers must travel > 300 km for supplies to satisfy local demands)	Supply volumes are high due to several commercial poultry farms in and around the area
Supply regularity	Erratic supply due to seasonal production	Regular supply due to year-round production

**Opportunities and constraints mapping.** Opportunities for and constraints against upgrading the backyard poultry value chain were identified for each element in the chain (Table 2).

### Practical Implications

The backyard chicken enterprise is a viable one that can be developed to reduce poverty and malnutrition. However, there are constraints at all the functional levels of the value chain which must be addressed before the available

opportunities for development can be seized. In addition, both public and private support services, major components of the backyard chicken value chain, are scarcely active. Firm government policies would also be beneficial. For example, if the control of Newcastle disease, a major challenge to the enterprise, can become a free public good, it is possible to control the disease to pave the way for enterprise development. Finally, the development of the backyard poultry enterprise based on indigenous chicken may be more efficient in reducing poverty and both protein and micronutrient malnutrition.

Table 2. Opportunities and constraints along the backyard poultry value chain in the Techiman area.

Value chain element	Opportunities for upgrading	Constraints against upgrading
Input supply	<ul style="list-style-type: none"> <li>- Specialization in input supply</li> <li>- Skill development in coop making</li> </ul>	<ul style="list-style-type: none"> <li>- Rudimentary production system</li> <li>- Lack of capitalization and information</li> </ul>
Production	<ul style="list-style-type: none"> <li>- Import substitution for local market</li> <li>- Increase market share for indigenous chicken</li> <li>- Increase employment by producing more chickens</li> </ul>	<ul style="list-style-type: none"> <li>- "Pass time" attitude towards production by farmers</li> <li>- Low level of capitalization</li> <li>- Poor research and development</li> <li>- High incidence of diseases and pests including thieves</li> <li>- Competition from cheap imported chicken product</li> <li>- High cost of private poultry disease control</li> </ul>
Marketing	<ul style="list-style-type: none"> <li>- Development of a local modern chicken market</li> <li>- Organization of chicken trade to feed local market</li> <li>- Export potential</li> </ul>	<ul style="list-style-type: none"> <li>- Absence of national policies for chicken marketing</li> <li>- Low production levels of chicken</li> <li>- Poorly developed market infrastructure for chicken</li> </ul>
Consumption	<ul style="list-style-type: none"> <li>- Increase animal source protein intake by the local population</li> <li>- Substitution of imported poultry meat</li> </ul>	<ul style="list-style-type: none"> <li>- High prices and erratic supplies</li> <li>- Less meaty birds</li> <li>- Competition from cheaper ready-to-use imported chicken meat</li> <li>- Absence of processed local poultry</li> </ul>
Vertical linkages	<ul style="list-style-type: none"> <li>- Introduction of more functions into the chain such as wholesaling, processing and exporting</li> </ul>	<ul style="list-style-type: none"> <li>- Low production</li> <li>- Poor characteristic of products</li> </ul>
Horizontal linkages	<ul style="list-style-type: none"> <li>- Introduction of more specialized activities at functional levels</li> <li>- Formation of organized groups to promote members activities more efficiently and independently</li> </ul>	<ul style="list-style-type: none"> <li>- Rudimentary technologies still in use in the backyard chicken enterprise</li> <li>- Lack of knowledge and skills in cooperative activities</li> </ul>
Enabling environment	<ul style="list-style-type: none"> <li>- Tolerance of neighbors for free range chickens</li> <li>- Traditional and local government administration</li> <li>- Local expertise</li> </ul>	<ul style="list-style-type: none"> <li>- Trade liberalization</li> <li>- Lack of any coherent national policy for the backyard chicken enterprise</li> </ul>

## Further Reading

Ahuja, V. and A. Sen. 2007. "Scope and space for small scale poultry production in developing countries." IIMA Working Paper No. 2007-12-02. Available at: <http://www.iimahd.ernet.in/publications/data/2007-12-02Ahuja.pdf>.

Aning, J.A. 2006. *The structure and importance of the commercial and village-based poultry in Ghana*. Final Review Report. Rome: FAO.

Awuni, J.A., T.K. Coleman, and V.B. Sedor. 2006. "Comprehensive approach to the improvement of rural poultry production in Ghana." In *Improving Farmyard Poultry Production in Africa: Interventions and Their Economic Assessment*. Proceedings of a FAO/IAEA Final Research Coordinated Meeting, May 24-28, 2004, Vienna, Austria.

Jensen, H.A. 2000. "Paradigm and visions: Network for poultry production in developing countries." In *Poultry as a Tool in Poverty Eradication and Promotion of Gender Equality*, ed. F. Dolberg and P.H. Petersen. Tune Landboskole, Denmark: Department of Animal Science and Animal Health, Royal Veterinary and Agricultural University.

Kitalyi A.J. 1997. "Village chicken production systems in developing countries: What does the future hold?" *World Animal Review* 89(2): 48-53.

Leeuwis, C. 2004. *Communication for Rural Innovation: Rethinking Agricultural Extension*, 3rd ed. Oxford: Blackwell.

Ministry of Food and Agriculture (MoFA). 2002. *Food and Agriculture Sector Development Policy (FASDEP II)*. Accra: MoFA.

Mwalusanya, N.A., A.M. Katule, S.K. Muyatoba, and M.M.A. Mtambo. 2002. "Productivity of local chickens under village management conditions." *Tropical Animal Health and Production* 34: 405-416.

Permin, A., J.C. Riise, K.N. Kryger, I. Assoumane, and T.W. Schou. 2006. "Experiences in using poultry as a tool for poverty alleviation at village level: How to enable poor women to increase their income. In *Improving Farmyard Poultry Production in Africa: Interventions and Their Economic Assessment*. Proceedings of a FAO/IAEA Final Research Coordinated Meeting, May 24-28, 2004, Vienna, Austria.

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The GL-CRSP Enhancing Child Nutrition through Animal Source Food Management (ENAM) project was established in 2003 and, through research, training and outreach, monitors the multiple pathways that might increase availability, accessibility and utilization of animal source foods in the targeted communities of Ghana. The project is led by Dr. Grace Marquis, Iowa State University and McGill University. Email: grace.marquis@mcgill.ca.



The Global Livestock CRSP is comprised of multidisciplinary, collaborative projects focused on human nutrition, economic growth, environment and policy related to animal agriculture and linked by a global theme of risk in a changing environment. The program is active in East and West Africa, Central Asia and Latin America.

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