

The need of an eco – innovative approach for poultry farming in North Western Province of Sri Lanka

Extended Abstract

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Background

Poultry is recognized as one of the important segments in animal husbandry because poultry keeping has been practiced for centuries as a backyard operation among rural families. In Sri Lanka, rural poultry can be promoted as a powerful tool for rural development programs. There was only one chicken processing company in Sri Lanka two decades ago, but with the rising demand for poultry products, several large scale processing companies entered the business. When it comes to 2015, this has spread throughout the country as small scale, medium scale and large scale. At present, the highest number of poultry farms can be seen in the North Western Province and it covers about 75% of egg and meat production in the country (Ratnayake, 2014). Hence, it has become one of the major and significant industries in the province.

Objectives

This is an industry which delivers high negative environmental impacts. Therefore, it is succinct that there should be well-defined methods in order to identify and manage those impacts effectively. Consequently, the objectives of this study were to determine the environmental aspects and impacts of the industry by scrutinizing the current production process and to propose approaches and measures in order to minimize them.

Methodology

The study has used the case study approach to collect the required data which was followed by selecting five medium scale poultry farms in the North Western Province and the investigations were done through interviews and observations. The detailed process identified for the egg and meat production is given in the process flow diagram in Figure 1.

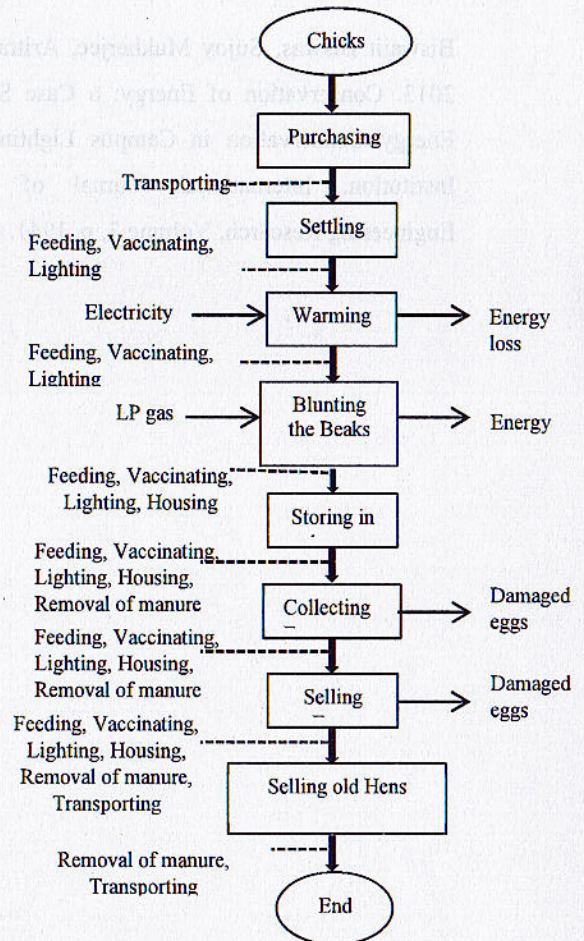


Figure 1: Egg Production Process

The study has delineated and substantiated the current environmental impacts along the process and certain methods have been identified to lessen those impacts.

Results

The observations have determined the following significant problems in the industry:

- Improper mechanism of waste disposal and the bad odour that may result in land and air pollution.
- Spread of diseases
- Poor hygiene of the shelters
- Improper use of poultry manure
- High energy and water consumption
- Poor personal hygiene of workers

Finally, an eco-innovative framework has been suggested. It includes some proactive and reactive

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methods to overcome the major environmental impacts of the industry. The methods include;

- Proper waste disposal and waste optimization
- Effective shelter building to prevent bad odour
- Agro-lamping to prevent resource depletion (Good Practices in Small Scale Poultry Production – A manual for trainers and producers in East Africa)
- Using alternative energy sources such as bio gas
- Use of hydro power AC generators to egg cooling rooms
- Use of LED bulbs for heat generation
- Use of secondary containers to reduce water wastage
- Regular training programs to educate farm workers on bio-security, vaccination and handling of birds

Conclusions and Recommendations

Poultry is a major industry in the animal husbandry. Hence, the environmental aspects and impacts in this industry should be given priority. But at present, although there are some basic rules and regulations used by Central Environmental Authority, they are not of great concern. Hence, it is really important to look into these impacts and take immediate actions.

Therefore, implementation of eco- friendly and eco- innovative approaches in order to minimize the environmental impacts is advocated in this study.

Moreover, some of these methods can be implemented in other livestock industries such as dairy, goat and swine in order to reduce the impacts to the environment.

A further analysis can be done after implementing this framework in the farms. It would help to ensure whether this mechanism could generate reliable results.

Keywords: Eco-Innovative approach, Environmental impacts, Poultry farming, Process flow, North western province

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