Environmental Guideline on Poultry Rearing below 5000 Heads

The purpose of this environmental guideline is to provide guidance to prospective developers to start their poultry rearing activity on the basis of self-adherence and to assist Local Authorities at the Building and Land Use Permit Stage.
1.0 Background
Poultry rearing involves either the rearing of broilers for meat or rearing of layers for egg production. Besides chicken, poultry farming may also involve, amongst others, rearing of ducks (canard), goose (les oies), turkey (dinde) and guinea fowl (pintade). Rearing of broilers is normally carried out in deep litter system whereas the production of eggs is carried out using the battery system. This activity is associated with several environmental impacts and sanitary nuisances which need to be mitigated through good husbandry practices and a proper farm management to avoid any inconveniences to the surrounding environment.

Major issues of environmental concern relate to:
- Zoning and site selection
- Solid waste
- Odour and sanitary nuisances
- Wastewater
- Visual Impacts
- Energy and water consumption

2.0 Objectives of the guideline
This guideline is meant to ensure that prospective developers:
- adopt appropriate mitigating measures to safeguard the environment.
- comply with provisions of relevant laws/ regulations/standards.
- adopt eco-friendly practices and optimize use of resources.

3.0 Applicable Legislation
Rearing of poultry below 5000 heads does not warrant a Preliminary Environmental Report (PER) Approval or an Environment Impact Assessment (EIA) Licence. It requires, amongst others, a Building and Land Use Permit under the Local Government Act 2011. Poultry rearing has to be carried out in accordance with the provisions under the Planning Policy Guidance and Outline Planning Scheme.

Note:
The development must comply with relevant provisions of the Local Government Act 2011, the Town and Country Planning Act 1954, the Building Control Act 2012, the Planning and Development Act 2004, as subsequently amended and all applicable guidelines and regulations.

4.0 Location/ Siting
(i) The site shall be located at least 200 m away from settlement boundaries; sensitive land uses (schools, dispensaries, hospitals); any domestic borehole and slaughter house.

(ii) The site shall be located on agricultural land and outside irrigation zones.

(iii) In view of biosecurity risks (spread of diseases), the distance allowed between two poultry farms of up to 5000 birds shall be 100 m. Where a poultry farm of 5000 to 20 000 birds is already existing, the the buffer distance shall be 200 m. In the case of the presence of an existing poultry farm of more than 20 000 birds, the buffer distance from the proposed poultry farm shall be 300 m.

(iv) Poultry farms should not be located within any Environmentally Sensitive Area (ESA) and its prescribed buffer zone as per ESA Study 2009 such as wetland, steep slope and in areas that are likely to be affected by hazards such as inland flooding, landslide and storm surges, amongst others.

(v) On site wastewater disposal facility such as septic tanks and absorption pits/leaching fields to be located not less than 30 m from any water course as per Rivers and Canals Act 1863.

(vi) Existing natural drains and watercourses on or in the vicinity of the site shall not be tampered with.
5.0 Mitigation of Environmental Impacts

5.1 Solid waste management
The types and quantity of wastes from the litter and battery system differ. The litter system requires the utilization of bedding materials such as sawdust or wood shavings. The droppings of the birds along with spilled feeds get mixed up with the litter.

On the other hand, the battery system produces wastes in the form of droppings.

The other common wastes generated in a farm include waste feed, packaging waste, used ventilation filters, unused/spoilt vaccines and domestic wastes.

5.1.1 Poultry litter/ droppings
Improper management and disposal of poultry litter / droppings contribute to odour and sanitary nuisances. Run offs from washing may contaminate surface and groundwater resources. Ammonia and other odour causing agents may impact on air and human health.

Mitigating measures include:

For poultry litter (broiler farm)
- Poultry litter to be kept as dry as possible and scraped instead of being flushed with water.
- The litter to be removed at the end of each life cycle at intervals of about 2 to 2½ months and carted away for bio-security reasons.
- Poultry litter can be sold to planters for cultivation purposes and used as organic fertilizer. The phyto-sanitary issues need to be to the satisfaction of the Ministry of Agro-Industry and Food Security.

Note:-
On-site composting is not recommended except if the required distance from farming and composting is respected as per advice from the Ministry of Agro-Industry and Food Security.

For poultry droppings (layer farm)
- Droppings to be kept as dry as possible and scraped instead of being flushed with water.
- Droppings should be removed 2-3 times per week and carted away for bio-security reasons.
- The droppings to be treated and used as organic fertilizer or can be converted into biogas and used for cooking. The phyto-sanitary issues need to be addressed as per the recommendations of the Ministry of Agro-Industry and Food Security.

5.1.2 Disposal of dead birds
Improper disposal of dead birds contributes to odour and sanitary nuisances attracting flies, rodents, pests, disease vectors. They may contaminate surface and ground water resources. Thus they need to be properly disposed of to minimize impacts on environment and human health.

Mitigating measures include:
- The flock density shall conform to the recommendations of the Ministry of Agro Industry and Food Security.
- Any unusual deaths and/or disease outbreaks has to be immediately reported to the Ministry of Agro Industry and Food Security (Veterinary Services).
- Proper flock care, disease prevention and mortality reduction through proper vaccination, provision of footbath disinfectant at poultry pens entrances.
- All dead birds should be disposed of by deep burial (in a bird pit) within the farm premises and disinfected with slaked lime as per the recommendations of the Sanitary Authority and the Ministry of Agro Industry and Food Security (Veterinary Services).
5.1.3 Feed wastes
Feed may be spilled during storage, loading and unloading or poultry feeding. As such, these wastes require proper handling and disposal to avoid any adverse impacts on the surrounding environment.

Mitigating measures include:
- Minimal spillage during loading, unloading, storage and feeding.
- Proper storage and handling of feed – feed to be kept in a dry and properly aerated store that is free from rodents, flies and pests to prevent spoilage.
- Proper management and stocktaking to avoid expiry of feed.

5.1.4 Other solid wastes
Other wastes normally include domestic wastes and packaging wastes. These wastes also require proper handling and disposal as they may give rise to sanitary nuisances such as odours, flies, rodents and other pests.

Mitigating measures include:
- Domestic solid wastes to be regularly collected in bins or waste handling receptacles and disposed of to the satisfaction of the Local Authority.
- Plastic bottles/containers used for vaccination should be disinfected and disposed of to the satisfaction of the Local Authority.
- No waste of any type to be disposed in any watercourse including drains and canals.

5.2 Odour and sanitary nuisances
5.2.1 Odour Management
Odour associated with poultry operations comes from bedding/litter, dead birds, feed and feathers. As such, proper handling and storage of same is required to minimize odour nuisance on the surrounding environment.

Mitigating measures include:

*In broiler farms*
- Application of slaked lime to the litter.
- Regular stirring up of the litter bed to aerate and keep the bedding dry.
- Fresh sawdust and wood shavings to be added to the litter as and when required.
- Accumulation of waste feed, overflow and spillage from feed and drinking systems should be avoided.

*In layer farms*
- Frequent collection (2-3 times per week) of droppings and reduction of the water content of same through incorporation of sawdust/wood shavings.
- A conveyor belt removal system could be used to avoid the accumulation of droppings from caged layers.

*Other measures for both broiler and layer farms*
- The farm premises to be kept clean and tidy at all times with good housekeeping.
- Planting scented ornamental plants around poultry farms to reduce dust and odour nuisances.
- Precautionary measures should be taken during transportation of poultry litter and droppings to avoid odour nuisances.
- Provision of a well-designed ventilation system and extractors to attenuate odour nuisances.
- Regular disinfection of farm.
- Removal of dead birds promptly.

5.2.2 Sanitary nuisance (flies, rodents and pests) management
Flies, rodents and pests are attracted by waste feed and bird droppings/litter, all of which require proper handling and management to minimize nuisances on the surrounding environment.

Mitigating measures include:
- The farm to be kept clean and tidy at all times with good housekeeping and husbandry practices, proper handling and storage of feed, poultry litter and other materials.
• Frequent carting away of droppings/litter.
• The farm to be rendered rodent and fly proof through provision of wire nettings, traps, fly-repellants, insecticides as approved by the Ministry of Health and Quality of Life. Use of eco-friendly alternatives such as citronella plants is also highly encouraged.
• The droppings/litter during the rearing activities should be kept dry at all times to discourage breeding of flies.

5.3 Wastewater management
Wastewater arising from washing and cleaning of poultry pens contain residual amount of droppings and waste feed. They therefore require proper handling and management to minimize any associated adverse impact.

Mitigating measures include:
• Wastewater from washing should normally be disposed of in absorption pits to the satisfaction of the Wastewater Management Authority.
• A flow of 1m³/1000 birds should be used when sizing absorption pit for wash water, in line with Technical Advisory Committee on Policy Paper for Poultry Rearing.
• The litter to be scraped prior to flushing the pens with water.
• No wastewater shall be discharged either on the surface of the ground or into any watercourse.

5.4 Visual Impacts
Poultry farms can adversely affect surrounding land use and tend to be visually intrusive impacting on the landscape.

Mitigating measures include:
• The design of the poultry pens to be to the satisfaction of the Food and Agricultural Research and Extension Institute.
• All the poultry pens to be restricted to ground floor only.
• The farm should be properly fenced and should be embellished by scented ornamental plants to enhance its aesthetic value.

5.5 Other mitigating measures
• Necessary precautions should be taken to avoid disturbance to the neighbourhood by way of odour, dust, noise or traffic during construction and operation phase.
• Provision to be made for adequate parking, loading and unloading facilities.
• Safe storage of materials on site and stored materials not unduly visible or intrusive in the street scene.
• Necessary measures including the implementation of a proper drainage scheme to be taken for the evacuation of surface run-off so as not to cause flooding/water-logging of the site and adjoining areas to the satisfaction of the Local Authority.

5.6 Eco-friendly Measures and Sustainability
Prospective farmers are advised to adopt best environment friendly practices such as rain water harvesting for cleaning and washing of premises, eco-friendly packaging of eggs, solar PV for lighting and use of eco-friendly detergents and biodegradable products.

Note:
• All issues pertaining to bio-security risks shall be to the satisfaction of the Veterinary Services of the Ministry of Agro-Industry and Food Security.
• Any unusual deaths and/or disease outbreaks has to be immediately reported to the Ministry of Agro Industry and Food Security (Veterinary Services).
• No slaughtering or processing activities to be undertaken on site.

Copies of this guideline are available at the Department of Environment and on the website of the Ministry at http://environment.govmu.org; the government’s portal at http://www.govmu.org, including the websites of Local Authorities.