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Environmental Guidelines

Swine Rearing

August 2017

New Projects	Existing Projects
▸Identification for the person applying for the Authorisation (National ID Card, Passport).	▸Identification for the person applying for the Authorisation (National ID Card, Passport).
▸Proof of Land Ownership.	▸Proof of Land Ownership.
▸A "No-Objection" Letter for the operation from the relevant Local Authority (NDC, RDC, or Town Council) *N.B. The Approved Site Plan by the NDC, RDC, or Town Council would be accepted as "no-objection".*	▸A "No-Objection" Letter for the operation from the relevant Local Authority (NDC, RDC, or Town Council) *N.B. The Approved Site Plan by the NDC, RDC, or Town Council would be accepted as "no-objection".*
▸"No Objection" from the Village Council and Ministry of Indigenous Peoples' Affairs if the project falls within Amerindian titled lands.	▸Permission from the Central Planning & Housing Authority.
▸Permission from the Central Planning & Housing Authority.	▸Map showing surrounding land uses, location (s) of water intake and the location (s) of any existing discharge structures.
▸Map showing surrounding land uses, location of proposed water intake and proposed discharge structures.	▸Site Plan showing the layout of the Operation.
▸Draft Site Plan (approved by the Local Authority) showing the layout of the Operation (submit a final version after all necessary adjustments have been made).	▸Summary of Project giving an overview of operations.
▸Summary of Project giving an overview of operations.	▸Business Registration/Certificate of Incorporation (if applicable).
▸Business Registration/Certificate of Incorporation (if applicable).	▸Indication of whether or not a Permit or Licence from any other Government entity is required or have been obtained.
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piglets from escaping. Additionally the fence should be constructed with materials that cannot be easily chewed by swine.

- Animals should not stand for long periods in their faeces, since this could cause them to have foot rot disease.
- When using offal as feed, ensure its safe to use and boil it before feeding swine.
- No slaughtering should be done on site, unless approved by the Environmental Health Officer of the NDC/RDC.

How do I get an Environmental Authorisation?

When applying for an Environmental Authorisation for a Swine Rearing operation, the following documents need to be presented.

Contents

Importance of Swine Rearing Guidelines

Swine rearing has the potential to pollute the environment and affect human health. Solid waste is produced at all stages of the swine rearing operation, including housing, feeding and watering. When waste from swine rearing enters the environment, the quality of water, air and land gets worse. Additionally, contact with wastes from swine rearing can cause diarrheoa and skin, eye or ear infections in humans. Since most small-scale swine rearing operations are located close to residential areas, these issues become a serious problem for surrounding residences. Outlined here are practical ways to carry out environmentally friendly swine rearing.

Do I need an Environmental Authorisation?

If you are thinking of setting up a swine rearing operation with more than 70 heads of swine then you need to apply to the Environmental Protection Agency (EPA) for an Environmental Authorisation. (see pg. 1)

Where should I set up my Swine Rearing Operation?

The most suitable location for new swine rearing operations is agricultural areas with existing farmlands that are at least 50 metres (164 feet) downwind from residences, schools, hospitals, etc. and

- Keep free ranging swine in one particular area, while the vegetation in other areas are growing.
- Trees can be planted around the boundary of the facility to prevent dust emissions from escaping to neighbouring residences.

Preventing diseases

- Control farm animals, equipment, personnel and wild or domestic animals entering the facility. To keep out wild animals holes in buildings should be covered.
- Have quarantine periods for new animals before they mix with the existing population.
- Wash and disinfect equipment, e.g., crates, clothing, before entering livestock zones.
- Vehicles that go from farm to farm should have special precautions such as limiting their operation to special areas, spraying of tires and treating parking areas with disinfectants.
- A veterinarian should carry out regular checks on the animals for parasites and other disease vectors.
- Identify sick animals and keep them away from the healthy ones. Develop a system for proper removal and disposal of dead swine.
- Pregnant sows and piglets should be housed separately. These need special attention to prevent death.
- Pens should be constructed with materials that would prevent

constructed lagoons.

- Bio-digesters to treat the sludge and produce biogas.
- Chlorination of treated wastewater when disinfection is required.
- Dewatering of residuals and using wastewater treatment residuals in compost or as fertiliser.

Controlling air pollution

Controlling odours

- Pens should be well ventilated to avoid the build up of the ammonia scent.
- Cover the floor with sawdust to absorb odour.
- Provide enough water for animals to lessen the concentration of ammonia in urine.
- Watering ponds for free ranging swine should have an inlet and an outflow drain and be regularly flushed to prevent stagnation.
- Compost the manure where possible to reduce odour emissions.
- Apply all recommended measures concerning waste management.

Controlling dust emissions

- Areas where dust will be created, e.g., feed grinding, should have systems in place to collect dust.
- Wet frequently used dirt/earthern roads to control dust.

water bodies.

How to control wastes

Managing waste feed

- Store feed in a specific area that is dry, well ventilated and meshed to avoid pests. Install storage racks 15-30 cm above the ground to prevent absorption of moisture and contamination.
- Ensure that feed is stored and transported in a proper manner to reduce wastage.
- Consider mixing waste feed with other materials that can be used as fertilisers, or as a part of compost.

Managing animal waste

- Pens should be cleaned at least twice daily by scraping floors before flushing with water and disinfectants. After collection, animal waste should be stored in covered pits or tanks.
- Collected manure can be used as fertiliser for crops or in fish ponds. However, manure from sick animals should not be used for this purpose.
- Place dry manure and litter in an area that is well covered.
- The slurry pit should be covered to reduce the amount of rainwater in the storage system.
- Store wastes for a short period (2-5 days) before transferring to another area for disposal or treatment.

- Manure should be treated on site by composting or by using in anaerobic digesters, which can be used to provide biogas for cooking and electricity.

Handling condemned carcasses

Condemned carcasses need to be properly managed and quickly disposed of in order to prevent the spread of diseases and odours and to avoid the attraction of organisms that can spread disease.

- Reduce death through proper animal care and disease prevention.
- Collect carcasses regularly to prevent decay.
- Disease-free carcasses may be used for animal feed or in compost.
- Dispose of carcasses by burial on property owned by you or at a site approved by the relevant authorities, e.g., NDC.
- The burial area should be at least 100 metres away from houses and water resources. The area should be stable, clay soil and burial should be deep enough to avoid disruption by animals such as dogs, vultures, etc. When burying carcasses, use lime to eliminate odours and assist in making the carcass decompose faster.
- If carcasses are to be burned, this should only be done in permitted facilities operating under national and/or international standards.

- Persons handling carcasses should be properly equipped with protective clothing such as gloves, long boots, respirator, apron and other safety gear.

Managing wastewater

Wastewater from swine rearing has the potential to contaminate surface and groundwater and runoff can come from swine housing, feeding, and watering.

- Reduce spilling of water by preventing overflow of watering devices.
- Install plants that can act as filters to absorb and trap sediments around surrounding trenches or pond, e.g., vetiver grass.

- Maintain a good drainage system around the holding house. Drains for rain water should be diverted to avoid the contamination of rain water.
- Wastewater from the cleaning of holding pens must be treated before being released into the environment.

Treating Wastewater

Wastewater can be treated in one of the following ways:

- Sedimentation using clarifiers or settling ponds, e.g., black tanks or