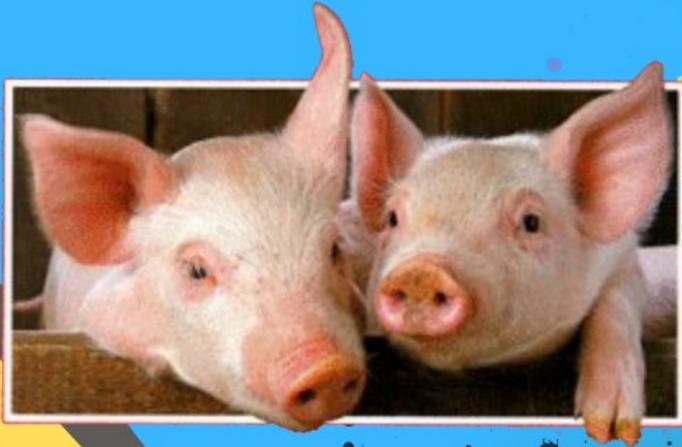




**ENVIRONMENTAL TOOLKIT FOR
LOCAL GOVERNMENT ORGANISATIONS
(REGIONAL DEMOCRATIC COUNCILS (RDC)
& NEIGHBOURHOOD DEMOCRATIC COUNCILS
(NDC)**



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INTRODUCTION

The Environment Protection Act 1996 (the Act) provides for the management, conservation, protection and improvement of the environment, the prevention of control of pollution, the assessment of the impact of economic development on the environment, and the sustainable use of natural resources.

One of the functions of the Environmental Protection Agency, established in the Act, is to prevent or control environmental pollution, as well as to ensure that any developmental activity which may cause an adverse effect on the natural environment be assessed before the activity commences.

OBJECTIVE

The purpose of this toolkit is to provide guidance and encourage the use of the best health and safety management practices and cost-effective technologies to improve environmental conditions in the workplace and surrounding community.

It also identifies measures to be taken to reduce or prevent pollution-related issues associated with swine rearing, poultry rearing, spray painting and mechanic workshops.

ABOUT THE ENVIRONMENTAL PROTECTION AGENCY

The Environmental Protection Agency was established on June 5, 1996, under the Environmental Protection Agency Act, Cap 20:05, Laws of Guyana.

The Act also gave the Agency authority to establish a governing Board of Directors.

The Agency's work enables Guyana to contribute to a Global and National environmental protection and conservation.

OUR MANDATE

To oversee the effective management, conservation, protection and improvement of the environment. It also requires that the Agency takes the necessary measures to ensure the prevention and control of pollution, assessment of the impact of economic activities on the environment and the sustainable use of natural resources.



WHAT IS AN ENVIRONMENTAL PERMIT?

An Environmental Permit is prescribed process licence, an Environmental Permit, a construction permit or an operating permit granted by the Environmental Protection Agency (EPA).

WHY IS AN ENVIRONMENTAL PERMIT NEEDED?

An Environmental Permit is required by law for any activity that may have significant impact to the environment; the Environmental Protection Act Cap. 20:05, Laws of Guyana. The process ensures that development is conducted in the most sustainable way possible by mandating investors to identify the major impacts of an investment project and determine the best measures or alternatives that can be put in place to prevent or mitigate negative impacts. Additionally, through the environmental permit process, it is determined whether or not an Environmental Impact Assessment (EIA) is needed before granting the Environmental Permit. This is another important process which is required to be completed by investors who are planning projects that will have significant adverse effects on environmental, social and economic well-being.



OPERATIONS WHICH REQUIRE AN ENVIRONMENTAL PERMIT

- Facilities Which Store, Treat Or Dispose Of Waste
- Development Of Industrial Complexes/Estates
- Development Of Water Distribution Facilities
- Bodywork/Spray Painting Operation
- Hotels, Inns, Resorts, Guest Houses
- Port & Harbour Development
- Auto Electrical/Mechanical
- Power Generation Plants
- Petroleum Exploration
- Construction of Roads

NB: THIS LIST IS NOT EXHAUSTIVE



GENERAL DOCUMENTS REQUIRED

- Completed Application Form
- Proof of Identification (ID or Passport)
- Proof of Land Ownership
- Business License
- Any Permit or License Received From Other Government Authorities
- Project summary/description including a map of the surrounding area
- Site Layout
- Application Fee



BENEFITS OF HAVING AN EP

An Environmental Permit has many long-term advantages, even for the investor; you will be guided on addressing impacts before they even occur. This helps to save time and money, as it prevents conflicts that may arise not only between investors and authorities but also between the investors and residents. An EA also legally protects your investment.





**REGIONAL DEMOCRATIC
COUNCILS (RDC)
&
NEIGHBOUR DEMOCRATIC
COUNCILS (NDC)**





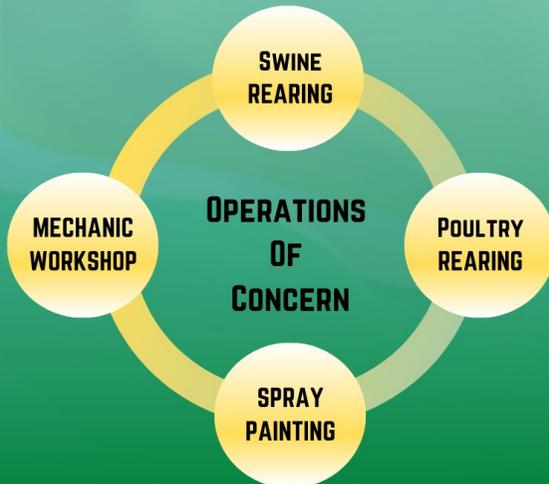
ABOUT THE RDC/NDC

The Regional Democratic Council & Neighbourhood Democratic Council is the supreme Local Government Organ in each region with the responsibility for the overall management and administration of the Region and the coordination of the activities of all Local Democratic Organs within its boundaries.

MANDATE

To provide policy leadership and management to enable Local Democratic Organs to deliver social, economic and environmental services in communities and to provide affordable housing solutions, water supply and sanitation services and also to promote water resource management.

WHAT RDC/NDC SHOULD CONSIDER WHEN GRANTING APPROVAL FOR BUSINESSES OF CONCERNS:



WHEN SHOULD OPERATORS COME TO THE EPA?

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.

WHY RDC/NDC SHOULD CONSIDER LOCATION BEFORE GRANTING APPROVAL FOR SWINE REARING?

In Guyana, many small-scale swine rearing operations are located in close vicinity to residential areas. The environmental issues associated with this type of operation becomes a serious problem for surrounding residences.

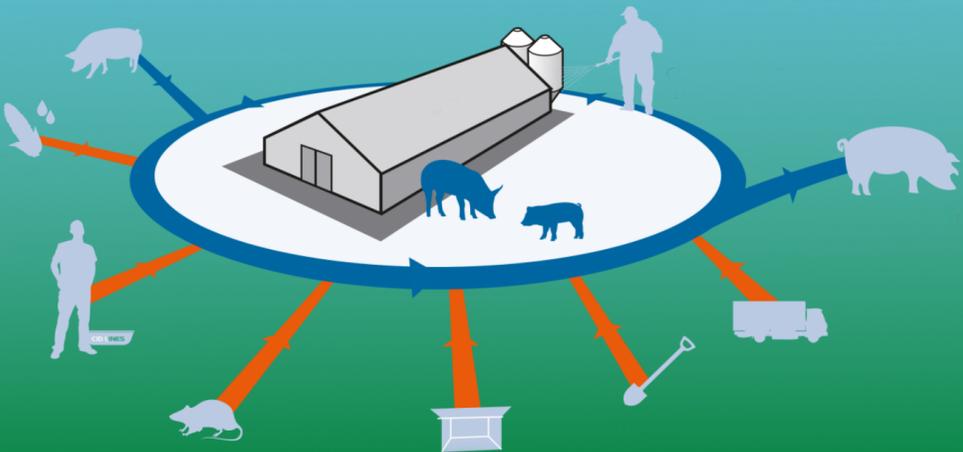
For new operations, the most suitable location for swine rearing operation facilities are agriculture areas where there are existing farmlands or/and the operation is at least 50m (~164ft) downwind from residences, major facilities and water bodies/water catchments.

POSSIBLE IMPACT

AIR POLLUTION

CONTROLLING AIR POLLUTION

- 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 reduce the concentration of ammonia in urine.
- Watering ponds for free ranging swine should have an inlet and an out-flow drain and be regularly flushed to prevent stagnation.
- Compost the manure where possible to reduce odour emissions.
- Apply all recommended measures concerning waste management.



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.

WHEN SHOULD OPERATORS COME TO THE EPA?

If you are thinking of setting up a poultry rearing operation with more than 500 heads then you need to apply to the Environmental Protection Agency (EPA) for an Environmental Authorisation.

WHY RDC/NDC SHOULD CONSIDER LOCATION BEFORE GRANTING APPROVAL FOR POULTRY REARING?

The poultry industry plays an important role in the lives of Guyanese. It provides food, employment and income, especially for low income families. However, poultry rearing can be harmful to the environment and human health. It can result in odour nuisance, and water and land pollution which can lead to skin, eye and ear infections in humans.

- It is important to select high, easily drained land. The site must be near to reliable water and fuel sources and provide adequate space for expansion.
- Where the land is spacious, the pen/s should be positioned downwind of the nearest residence.
- The site must also be easily accessible. Location of bridges and entrances should not pose a traffic hazard and must not obstruct the free flow of water through any water course especially during rainy seasons.

POSSIBLE IMPACT

AIR POLLUTION

CONTROLLING AIR EMISSIONS

Air emissions from poultry rearing include ammonia, odours, and dust.

REDUCING AMMONIA

EMISSIONS

Apply chemicals to litter weekly to reduce conversion of nitrogen to ammonia. Using aluminium sulphate (alum) is recommended. Alum can be applied to poultry litter when changed, at a rate equivalent to 5-10% the weight of manure. Where possible, manure can also be used in compost to reduce odour emissions.

ODOUR EMISSIONS



DUST EMISSIONS

- Areas where dust will be created, e.g., feed grinding, should have systems in place to collect dust.
- Went frequently used dirt/earthen roads to control dust.
- When wire mesh is used for construction pens, the sides exposed to neighbouring residences should be blocked to prevent dust from affecting residents.

MANAGING HAZARDOUS MATERIALS AND WASTE

Pesticides need to be managed carefully to prevent pollution and health hazards.

- Ensure there are systems to keep out pests, e.g., plug holes, seal gaps around doors and windows, use traps, barriers, etc.
- Control pests by using natural predators.
- Practice good housekeeping in pens and other facilities to prevent the breeding of pests.
- Improve drainage to control mosquitoes.
- Assess whether or not the use of pesticides are necessary and the impact they have on the environment.
- Choose the pesticide that has the least negative impact.



MANAGING SOLID WASTE

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 POULTRY WASTE

- Instead of flushing with water, remove animal waste and bedding by scraping to ensure that it is kept as dry as possible when being removed. After scraping, use high-pressure, low-flow nozzles to wash the area.

- Collected manure can be used as fertiliser on agricultural land.
- Manure to be disposed of should be stored in stacking sheds, roofed storage areas or in ponds that are located away from water bodies, floodplains, wellheads or other sensitive environments until it is ready to be disposed.
- The place where manure will be stored should be constructed to prevent contamination of surface and ground-water, e.g., concrete floors, fixed roof or plastic sheeting to cover the facility, roof gutters to collect and divert clean rainwater.

****It is not recommended to use manure from sick birds.***

OTHER SOLID WASTES

Other wastes such as cardboard boxes, feathers, cleaning containers, etc., should be disposed of at an approved site or can be used in compost and reused as organic manure. Storage containers used before removal should be emptied and washed as regularly as possible to avoid the build up of pests and odour.



WHEN SHOULD OPERATORS COME TO THE EPA?

An Environmental Authorisation is needed for medium to large scale operations.

- ✓ Medium scale operations are workshops that have a workload of 5 to 14 vehicles per month and operate on a daily basis with a fixed schedule.
- ✓ Large scale operations are workshops that have a workload of 15 vehicles or more per month and operate on a daily basis with a fixed schedule .

If you currently own or are thinking about setting up such an operation then you need to apply to the Environmental Protection Agency (EPA) for an Environmental Authorisation

WHY RDC/NDC SHOULD CONSIDER LOCATION BEFORE GRANTING APPROVAL FOR SPRAY PAINTING OPERATIONS?

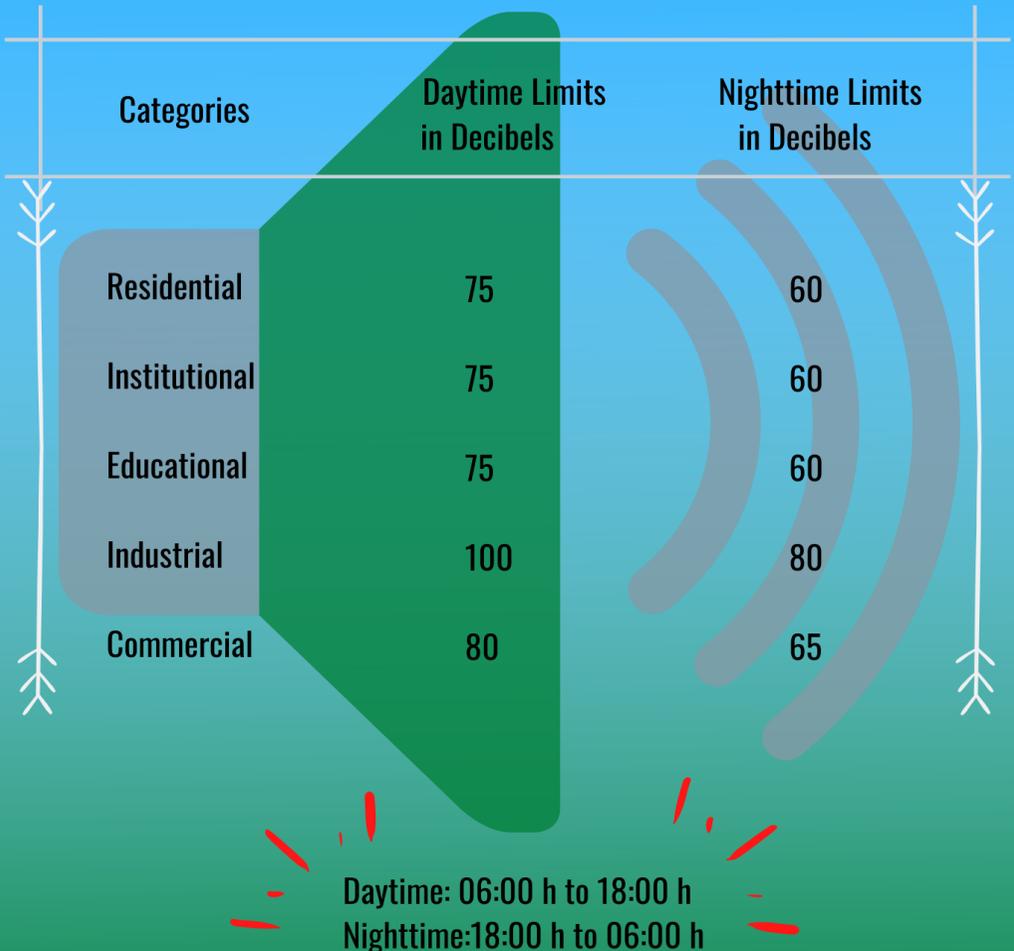
Spray Painting is associated with a number of environmental, health and safety concerns. The main concern of Spray Painting operations is air pollution. Spray painting releases chemicals known as volatile organic compounds (VOCs) into the air and these can affect human health. When exposed to VOCs humans can suffer from eye and respiratory tract irritation, headaches, dizziness, visual disorders, and memory impairment. Exposure to VOCs can also cause cancer.

Spray painting shops should be located industrial area and not a residential or commercial area. Spray shops should be at least 50 metres (164 feet) away from the nearest residence.

POSSIBLE IMPACT

NOISE POLLUTION

Equipment used in spray painting activities can also be a source of noise. Noise from spray painting operations must be within the limits established in the Guyana Standard Guidelines for noise emission into the environment, according to the area where the facility is located.



WASTE MANAGEMENT

HOW TO MANAGE WASTE AND SPILLS WASTE



Never dispose of waste solvents, wash water, paint, etc. into the drain or nearby water ways.



Collect and store all contaminated solvents used to clean equipment in a drum.



Empty solvent containers can be reused to store either used solvent that will be re-used or waste solvent waiting to be disposed of.



Rags used to soak up solvents should be kept in a closed container labeled 'HAZARDOUS WASTE'.

SPILLS WASTE

- A spill kit must always be available and employees should know how to use it. To clean up a spill, absorbent material should be used. Install drain covers or drain valves to stop spills or leaks from entering drains or the sewerage system.
- If spilled solvent isn't contaminated, use it for cleaning. Any material used to clean up a spill should be stored in a sealed drum before disposal at the Haag's Bosch Landfill.

MECHANIC SHOPS & THE ENVIRONMENT

Mechanic shops deal with the creation, structuring and maintenance of mechanical equipment, little do we know that it associated with a number of environmental, health and safety concerns. Have you ever wonder what effects those mechanic shops have on the environment?

Most mechanic shop deals with spray panting activities which is also a health and safety concern to the environment, as we all know spray painting activities releases chemicals known as volatile organic compounds (VOCs) into the air which affects human health, it is very important to know that we do need an environmental authorization, which you will need to apply to the Environmental Protection Agency, how to handle the equipment, cleaning equipment and managing solvents and more to carry out this activity.



ENVIRONMENTAL EFFECTS OF MECHANIC SHOPS

Mechanic shops play a major role in polluting the environment, for instance oil pollution. Oil pollution is recognized as one of the most common type of water pollution. Oil spills and careless disposal of oil wastes into drainage systems can ultimately reach receiving surface water bodies, ground water and land areas. Which can consequently have severe impact on plant and animal, in addition, used oils may have hazardous properties, which can have an effect on human health

DESIGN OF MECHANIC SHOPS

The design of the mechanic shop must be appropriate for the site and the surrounding development. Sufficient space should be provided to service vehicles and to ensure the safe movement of vehicles and pedestrians on and around the site.

EMISSION

Did you know Inhaling large amounts of gasoline fumes can even cause death ?

- When we think of car emission control systems in automobiles work, we usually think of dark smoke or fumes coming out of our exhaust pipes. While we drive, internal combustion processes create noxious chemicals (like CO₂ and nitrogen oxides) and get released into the air which pose a risk to human health because of the chemical that the fuel contains.



- Exhaust vents should be put in place to remove vapours. These should be at least 2 meters above the highest roof in the surrounding area and should include effective filter system to reduce emissions

RECYCLING & WASTE MANAGEMENT

Recycling and Waste Management Recycling is extremely important when looking at environmental and resource management, In order to protect our environmental resources we must ensure that as much of our waste is recycled and made into new products. Practice correct handling and disposal of all wastes materials in an environmental friendly manner and minimizing waste production.

Reduce –

Try to reduce the volume of all materials coming into your business. This will reduce the waste you need to dispose of and will reduce the depletion of resources.

Reuse –

try to reuse materials which you already have onsite for other purposes.

Recycle –

if reducing and reusing is not a viable option, then recycle as much of your waste as possible. You must ensure that waste is recycled correctly

**FOR ADDITIONAL INFORMATION YOU CAN
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