

SECTORAL GUIDELINE No. 4

**CONTENT OF PRELIMINARY
ENVIRONMENTAL REPORT (PER)**

**REARING OF LIVESTOCK INCLUDING CATTLE,
GOAT & SHEEP**

(more than 20 cattle heads, more than 50 goat heads and more than 50 sheep heads)

December 2013

This guideline is not a legal document. It serves as an environmental guidance and provides a template for the preparation of a comprehensive PER. Copies of this guideline are available at the Department of Environment and on the website at <http://environment.gov.mu>.



Preface

Preliminary Environmental Report (PER) is an approach to identify, evaluate and predict the environmental impacts of a proposed development or activity and enables the provision of appropriate mitigating measures to offset these impacts. It is therefore essentially based on the precautionary principle and aims at the protection of the environment at the very inception stage of a project. It should not be perceived as an obstacle for economic development.

The preparation of a PER document in a professional manner can be an intricate process in the absence of proper guidance. This sectoral guideline on the content of a PER concerns the **Rearing of Livestock (more than 20 cattle heads, more than 50 goat heads and more than 50 sheep heads)** and is designed to assist proponents and consultants in the preparation of a comprehensive PER document. It is not exhaustive, but provides the essential structure and the detailed requirements of the PER.

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1.0 INTRODUCTION

1.1 Background

Preliminary Environmental Report (PER) is a short form of an Environment Impact Assessment (EIA) and applies mostly for common projects which are of a less polluting nature. The PER document shall be in conformity with **Section 16 of the Environment Protection Act (EPA) 2002 (as amended)**.

Livestock rearing essentially involves the rearing of cattles, goats and sheeps for milk and meat production. It is associated with several adverse environmental impacts such as odour, solid wastes and wastewater disposal as well as the proliferation of flies. It requires good husbandry practices and a proper farm management to mitigate the impacts on the surrounding environment. The siting of a livestock farm is also an important factor. No slaughtering activities are allowed on livestock rearing sites.

Following the promulgation of the Business Facilitation (Miscellaneous Provisions) Act 2006, livestock rearing of up to 20 cattle heads, 50 goat heads and 50 sheep heads does not require a PER approval. The activity has to be carried out in compliance with the self-adherence Environmental Guideline No. 29 on Livestock Rearing prepared by the Ministry of Environment and Sustainable Development (MOESD) which is available on the Ministry's website at <http://environment.gov.mu>.

Rearing of livestock above 20 cattle heads, 50 goat heads and 50 sheep heads is a listed undertaking under item No. 21 of Part A of the Fifth Schedule of EPA 2002 and thus requires the approval of a PER.

A proponent applying for a PER approval shall deposit 10 copies of the document at the Department of Environment (Environmental Assessment Division, 2nd Floor, Ken Lee Tower, Barracks Street, Port Louis) and in such additional copies as the Director of Environment may request. A processing fee of Rs 3000 is currently applicable.

1.2 Objective of PER Guideline

The objective of this Guideline is to assist proponents and consultants in the preparation of a comprehensive PER document that contains the necessary information, while addressing all the environmental aspects to enable a proper assessment. It also aims to encourage a consistent approach for a timely processing without the necessity to request for additional information.

Note: This guideline is by no means exhaustive and should be complemented with other relevant documents such as the Planning Policy Guidance (PPG) of the Ministry of Housing and Lands, Outline Planning Schemes of the concerned Local Authority, and the relevant acts and regulations.



2.0 Site Selection Criteria

Prior to embarking on rearing of livestock, due consideration has to be given to site selection criteria:

- (i) The site should not be located within a gazetted Irrigation Zone;
- (ii) The site should be at a minimum distance of 200 m from the limits of settlement boundary, any nearest residential building outside settlement boundary and other sensitive land uses (including education and health facilities);
- (iii) The site should be at least 200 m from any slaughter house and any domestic borehole;
- (iv) The site should not be located within a priority quarry area for Mineral Resources and its 200 m buffer zone from its quarry boundary. Rearing of livestock outside the 200 m buffer zone and up to 1 km from a priority quarry boundary as well as within a potential mineral resource site and its 1 km buffer shall be on a temporary basis, subject to necessary permits and licences being obtained from the relevant authorities.

The attention of the proponents/consultants is drawn to the following:

- (i) *Location of priority as well as potential quarry site can be obtained from the Outline Planning Scheme or from the Local Authorities;*
- (ii) *For land classified as Agricultural Land as defined in the Sugar Industry Efficiency (S.I.E) Act, a Land Conversion Permit/Land Conversion Clearance will be required in accordance with the Ministry of Agro Industry and Food Security;*
- (iii) *In case of the presence of any other animal or poultry rearing activity being undertaken in the vicinity, prior authorization/clearance should be sought from the Ministry of Agro Industry and Food Security in respect of any biosecurity risk; and*
- (iv) *In case the subject site does not satisfy the above locational criteria, the proponent is advised to look for an alternative site or embark on a different project compatible with the surrounding environment.*

3.0 STRUCTURE AND CONTENTS OF THE PER

The PER could be prepared according to the following proposed outline:

Outline of a typical PER Document

Cover Page
Table of Contents
Non-technical Summary
Chapter 1- Introduction
Chapter 2- Policy, Legal and Administrative Framework
Chapter 3- Site Description and the Surrounding Environment
Chapter 4- Environmental Baseline Information
Chapter 5- Project Description
Chapter 6- Environmental and Other Impacts - Evaluation and Mitigation
Chapter 7- Identification and Analysis of Alternatives
Chapter 8- Conclusions
Expertise of Consultant/Consultancy Team
Appendices and Supporting Documents
References

Cover Page

The cover page should clearly indicate:

- (i) The title of the proposed project, as stated in Part A of the Fifth Schedule of the EPA 2002 (as amended);
- (ii) Location of the project;
- (iii) Name of the proponent; and
- (iv) Date.

On a second page:

- (i) Contact details and address of the proponent;
- (ii) The person responsible with contact details: address, phone/mobile, email and fax number;
- (iii) The main Directors, the Company Registration Number/Business Registration Number;
- (iv) The team responsible for the PER, name of the consultant/s or consultancy firm, as applicable;
- (v) Qualification of consultant and expertise in the field; and
- (vi) Signature of the proponent or his duly appointed legal representative.

Table of Contents

The Table of Contents should indicate the different chapters and sub-chapters with their respective page numbers. It should also indicate the tables, figures, appendices, acronyms among others.

Non-technical Summary

The Non-technical Summary should provide a concise overview of the report in a simple language. It should be about one or two pages focusing primarily on the location, distance from sensitive land use, the scale, main impacts associated with the project and measures envisaged to mitigate same.



Chapter 1 - Introduction

The introduction should highlight the main features of the project, its objectives and justification. It should also encompass the project costs, experience in similar projects (if any), benefits, employment opportunities, the market for the meat, milk and manure, as well as the technical, economic and environmental features essential to the project. The consultant(s) should be fully versed in the subject matter with adequate experience in good husbandry practices, biosecurity aspects and mitigating measures to abate nuisances arising from animal rearing.

Chapter 2 - Policy, Legal and Administrative Framework

This section of the PER should indicate compliance of the project with the relevant plans, policies, national laws, standards, guidelines and regulations, and the protection of sensitive areas and how these are being addressed. These include, inter alia:

- (i) The EPA 2002, the National Environmental Standards, Guidelines and Regulations under the EPA;
- (ii) The Town and Country Planning Act, Planning and Development Act, Building Control Act, Wastewater Management Authority (WMA) Act, Public Health Act, Ground Water Act, Rivers and Canals Act, Central Water Authority Act, Local Government Act 2011, Local Government (Dumping and Waste Carriers) Regulations 2003, Forest and Reserves Act; and
- (iii) The Planning Policy Guidance (PPG) and Outline Planning Schemes.

Chapter 3 - Site Description and the Surrounding Environment

The site description should provide a detailed investigation of the site, the surrounding environment and the sensitivity of the site. It should include, inter alia, the following:-

- (i) Proof of land ownership: copy of Title Deed if the promoter is the owner of the land where the development is being proposed or where the proponent is not the owner of land, by a Lease Agreement or written registered evidence of the authorisation of the owner, or a certificate issued by a notary expressing his opinion as to the owner's title.
- (ii) Exact land extent and project location. The site should be indicated on a legible **Context Map or on an aerial photograph of scale 1:10,000 or any appropriate scale;**
- (iii) A comprehensive legible **Site Location Plan drawn to scale 1:5,000 or as appropriate**, should be provided. It should be **duly certified by a Sworn Land Surveyor** with appropriate landmarks as reference points, indicating the distances of the site boundary to the limits of settlement boundary, the nearest existing residential building, the site boundaries of nearby poultry or other farms, any environmentally sensitive area (ESA), mineral resource site, designated site of interest, water body, natural drain, storm water drain, water courses, canal, wetland, borehole, other critical habitat and existing development in the surrounding environment within a radius of **500 m**. The prevailing wind direction should be indicated on the plan. The Location Plan should clearly indicate whether the site is affected by any ESA or any mineral resource site;
- (iv) Consideration given to all the site selection criteria listed at Section 2.0;

- (v) Site characteristics in terms of site location (GPS coordinates of the boundaries delimiting the site), landform, topography (supplemented by 1.0 m interval contour map in case the site is slopy), geology, soil type and characteristics, presence of any watercourse or water body, any ESA, mineral resource area, sensitive habitats of ecological importance, present and past land use, vegetation cover, flora and fauna, amongst others;
- (vi) Accessibility of site, indicating the width of access roads;
- (vii) Archaeological, cultural and heritage value of site, if applicable; and
- (viii) Indication of similar projects and other forthcoming projects in the surroundings.

Chapter 4 - Environmental Baseline Information

The purpose of the baseline information is to determine the state of the environment prior to the implementation of the proposed project. It is primarily a benchmark to measure environmental changes due to the proposed development. The baseline information should provide a description of the existing environmental status with emphasis on those aspects likely to be affected by the project proposal. The baseline information should include, inter alia, the following:

- (i) Prevailing climatic conditions (as applicable), such as rainfall, temperature, relative humidity, wind direction;
- (ii) Position of water table; and
- (iii) A geotechnical report including description of subsurface strata up to 3m deep, maximum level of water table and results of percolation test as per BS 6297 MSB as applicable. The geotechnical report shall be certified by a Civil Engineer registered with the Council of Registered Professional Engineers (Mauritius) or a Soil Scientist.

Note: The onus of requesting a geotechnical report/percolation test rests with the Wastewater Management Authority (WMA), which might request for same on a case-to-case basis, depending on the sensitivity of the site. Proponents/consultants are therefore advised to consult the WMA in order to ascertain whether a geotechnical report is required or not. The percolation tests must be witnessed by an officer from the WMA.

Chapter 5 - Project Description

The project description should include, inter alia, the following:

a. Project type, including inter alia:

- (i) Description about whether the farm is meant for meat production (fattening) or for milk production (dairy farm) or both;
- (ii) A detailed description of all activities to be undertaken;
- (iii) The herd size, the number and the type (cattle/goat/sheep) of animals to be reared and the flock density; and
- (iv) Number of workers.

b. Farm layout, including inter alia:

- (i) Size, number and design of sheds with plot coverage and gross floor area;
- (ii) A legible **Site Layout Plan, drawn to scale of 1:200** or as appropriate, indicating the site boundaries, the proposed or any existing building, the sheds, mess rooms, watchman's quarters, stores for feed and equipment, space provided for heaping and composting of manure and other organic solid waste, wastewater disposal system, drainage system for the collection and evacuation of storm water, burial

pit for dead animals, parking spaces, loading and unloading bay, water storage facility and the access road to the site;

- (iii) Legible detailed **Building Layout Plans, drawn to scale of 1:100** or as appropriate, indicating floor layouts, elevations and architectural plans;

All plans should be drawn on a legible scale and preferably on A3 or A4 size.

- (iv) Any landscaping work, growing of decorative and other plants, enhancement of the aesthetic, visual impact of the farm and provision for fencing or boundary wall.

c. Details on the method of rearing, including inter alia:

- (i) Source and supply of animals;
- (ii) Method of rearing;
- (iii) Type and source of feed, including
 - The feeding regime;
 - Feed and forage production / on-site pasture for grazing; and
 - Means of storage of feed;
- (iv) The method of transportation of animal to and from the site;
- (v) Acclimatisation of animal;
- (vi) Details on the shed structure, including the ventilation (specification of any wire netting to be used) and the lighting system;
- (vii) A list of equipment to be used on farms for example, tractors, bobcats, milking machine, pressure washers etc. should be included;
- (viii) Method of breeding - whether artificial insemination or natural breeding or both; and
- (ix) Details on husbandry practices and on any provision to cater for proper animal welfare.

d. Details on milk production in the dairy farm (as applicable), including, inter alia:

- (i) Milking frequency; expected volume of milk on a daily basis;
- (ii) Details on the milking equipment and the sterilization procedures;
- (iii) Security measures to be adopted to prevent any milk contamination;
- (iv) Provision for on-site cold storage facilities for milk; and
- (v) Marketing/sale of milk.

e. Health control and biosecurity risks, including inter alia:

- (i) Distance between the sheds;
- (ii) Vaccination programme - services of Veterinary;
- (iii) Sanitary measures;
- (iv) Use of disinfectant at entrance of farm and sheds;
- (v) A Preliminary Response Guideline in case of any disease outbreak;
- (vi) Steps to be taken to immediately inform the Ministry of Agro Industry and Food Security in case of outbreak of disease; and
- (vii) A dedicated site within the farm premises should be identified for deep burial or incineration of dead animals as per the recommendation of the Sanitary Authority and the Ministry of Agro Industry and Food Security.

Note: In case of any disease outbreak, the disposal site for dead animals should be approved by the Ministry of Health and Quality of Life, the Ministry of Agro Industry and Food Security and the Water Resources Unit.

f. Availability of utilities, including inter alia:

- (i) The expected daily water requirement and the source of water supply;
- (ii) Provision for water storage tanks and capacity;
- (iii) The expected daily electricity requirement and the provision for its supply;
- (iv) Any provision for a standby generator in case of power failure; and
- (v) Provision of fire extinguishers.

g. Sustainability aspect of the farm, including inter alia:

Details on measures envisaged to enhance the sustainability aspect of the farm such as:

- (i) Alignment of sheds to maximise natural ventilation;
- (ii) Composting of organic solid waste;
- (iii) Production of biogas; and
- (iv) Best practices envisaged for solid waste management, water and energy saving.

h. Time Schedule

- (i) Proposed schedule of works for project implementation.
- (ii) Hours of operation

Chapter 6 - Environmental and Other Impacts – Evaluation and Mitigation

The potential significant adverse environmental impacts should be assessed in terms of its magnitude and significance during the site preparation, construction, operation and decommissioning (if any) phases of the project. For each impact identified, appropriate mitigating measures should be proposed.

A. SITE PREPARATION AND CONSTRUCTION

- (i) Site preparation – excavated soil and debris, felling down of trees, generation of noise and dust.
- (ii) Construction phase – noise, traffic, generation of construction waste and wastewater.

Appropriate mitigating measures should be provided for each impact identified.

The report should also include:

- Necessary precautions to be taken to preserve and reinstate any natural drain on site;
- Detailed designs, specifications and layouts of surface drains for evacuation and final disposal of storm water;
- Embellishment/environmental enhancement and any landscaping works; and
- Precautionary measures to prevent any risk of soil erosion and flooding.

B. OPERATIONAL PHASE

(i) Solid Waste Management

- Expected volume of manure on a daily or weekly basis, the frequency of its removal, on-site storage and the methods of disposal. In case composting is envisaged, details on the composting methods and final disposal should be provided;
- Method of disposal of dead animals and details on burial pit or incinerator;
- Sources, types, expected volume of other solid wastes generated such as empty feed bags, domestic wastes, empty vials and packing materials, on a daily or weekly basis, mode of collection, on-site storage facilities and final disposal; and
- Any proposal for reducing, reusing and recycling solid wastes.

(ii) Wastewater Management

- Frequency of washing of sheds. The expected volume of wastewater to be generated and the method of its disposal;
- The expected volume of domestic wastewater and the method of its disposal;
- Wastewater disposal structures should be at a minimum distance of 30 m from any existing water course/body; and
- Any proposal for water conservation and wastewater reduction.

(iii) Odour management

- Identification of all sources of odour such as the manure heap, composting site, drainage system for wastewater and burial pit amongst others; and
- Details on the proposed measures to mitigate odour nuisances including good husbandry practices, proper ventilation system (natural or induced), removal of any crack or crevice in the walls, regular cleaning and disinfecting of farm premises, prompt disposal of wastes, good housekeeping, and any provision for aromatic (fragrance) plants.

(iv) Flies and rodents

- Details on the measures taken to control flies and rodents proliferation. These could include amongst others provision for wire mesh netting of appropriate size and regular cleaning of same, proper storage of animal feed and controlled application of pesticides and insecticides; and
- Mitigating measures can also include the use of baits, traps and soliciting the service of a pest control company.

(v) Chemicals

- List of chemicals such as sanitary products, medicines, growth hormones, pesticides, or insecticides, that are likely to be used, their respective quantities and storage facilities; and
- Details on the mode of disposal of empty vials, chemicals containers and expired chemicals.

(vi) Environmentally Sensitive Areas (ESAs)

In case the development will be affected by any ESA or sensitive land use, an assessment will have to be undertaken to evaluate the degree of adverse impacts and the mitigating measures envisaged. No development will be allowed in Category 1 ESAs.

C. THE OTHER IMPACTS AND MITIGATING MEASURES REQUIRED, INTER ALIA:

- (i) Identification of the cultural and heritage sites (if any) that may be affected by the proposed development and proposed measures to mitigate any adverse impact. On a case to case basis, proponent may be requested to submit a full Heritage Impact Assessment (HIA).
- (ii) Measures envisaged to ensure the protection of important scenic landscape. The development should blend with the landscape and landform character. Appropriate use of green hedges may have to be considered so that the farm is not visually intrusive from public road.
- (iii) Socio-economic impact should consider how the project would influence the social and economic conditions of people and communities. For instance, the number of employment created directly and indirectly by the development and the advantages and weaknesses of the project on neighbourhood. The PER should indicate the ways and means to reduce any adverse impact. Any initiative for Corporate Social and Environmental Responsibility (CSER) from the proponent may be included in this section.

Chapter 7 - Identification and Analysis of Alternatives

Alternatives taken into account in developing the project should be documented such as alternative site, alternative process and zero development option.

Chapter 8 - Conclusions

The final chapter of the report should provide the main findings and conclusions, which justify the acceptability of the proposed project in relation to the proposed mitigating measures. Appropriate conclusions should be drawn and summarised in a series of brief statements with focus on significant impacts and mitigating measures proposed.

Expertise of Consultant/Consultancy Team

The preparation of a PER demands a multidisciplinary approach and expertise in different fields. The responsible team should demonstrate wide experience in relevant fields such as animal husbandry.

Appendices and Supporting Documents

These should include information, which would cluster to the main body of the text, such as site photographs and maps, press releases, written responses to the project.

Any additional technical information, a list of reference materials, copy of Certificate of Incorporation for Company, copy of Business Registration Card, names, addresses and qualifications/expertise of the PER consultants, copies of clearances/ permits obtained or applied (if any) from authorities and proof of land ownership, may be included.

References

The bibliographies that have been used for the preparation of the PER document.

Note: Section 16 (8) of the EPA 2002 (as amended) makes provision for the Minister of Environment to revoke a PER Approval, where a PER contains any false or misleading information or any material omission.

Appendix I

Checklist for accepting PER Application for Rearing of Livestock (more than 20 Cattle Heads, more than 50 Goat Heads and more than 50 Sheep Heads)

SN	Particulars	Tick
1.	The project title as per the Fifth Schedule of the EPA 2002 (as amended)	
2.	Name and address of proponent	
3.	Person responsible: name, address and contact details	
4.	Name and address of consultant/consultants/consulting firm	
5.	Qualifications of consultant	
6.	Expertise of consultant/consultancy team in the field	
7.	PER duly signed by the proponent or his duly appointed legal representative	
8.	Letter of appointment of legal representative	
9.	Proper binding	
10.	Number of printed copies	
11.	Document is in conformity with outline in the Sectoral Guideline No. 4 - Content of PER for Rearing of Livestock (more than 20 cattle heads, more than 50 goat heads and more than 50 sheep heads)	
12.	Proof of ownership - Copy of Title Deed /Notary Certificate/Lease Agreement /Registered Letter of Authorization	
13.	Non-technical Summary	
14.	Objective of project	
15.	Project justification	
16.	Zoning and compatibility of site	
17.	Description of site and surrounding environment	
18.	Present land use	
19.	Flora and fauna	
20.	Distance of site from settlement boundary and residential development	
21.	A legible Context Map or an aerial photograph of scale 1:10,000 or any appropriate scale	
22.	A legible Location Plan drawn to scale 1:5,000 or as appropriate and duly certified by a Sworn Land Surveyor indicating the distances from the site boundary to the limits of settlement boundary, the nearest existing residential building, the site boundary of nearby poultry farms or other farms etc	
23.	Legible Site Layout Plan of scale 1:200 or as appropriate indicating the different components of the project	
24.	Architectural Building Layout Plan of scale 1:100 or as appropriate	
25.	Environmental baseline information	
26.	Project description	
27.	Scale of project	
28.	Flock density	

29.	Method of rearing	
30.	Details on all activities to be undertaken	
31.	Size, number and design of sheds	
32.	Vaccination aspects	
33.	Number of workers	
34.	Availability of statutory services and requirements	
35.	Environmental impacts during site preparation phase	
	Mitigating measures	
	Noise	
	Dust	
	Disposal of solid waste	
36.	Environmental impacts during construction phase	
	Mitigating measures	
	Noise	
	Dust	
	Disposal of solid wastes including construction debris	
	Wastewater generation and mode of disposal	
37.	Environmental impacts during operation phase	
	Mitigating measures	
	Solid wastes from rearing activity and domestic sources	
	Wastewater from cleaning/washing of sheds and domestic sources	
	Odour	
	Noise	
	Flies/rodents	
38.	Sustainability aspects of the project Measures to be undertaken amongst others: <ul style="list-style-type: none"> • Water saving, conservation and rainwater harvesting • Wastewater minimisation • Eco-friendly measures • Solid waste – reduce, reuse and recycle • Use of natural ventilation and lighting 	
39.	Alternatives to the project	
40.	Implementation schedule	
41.	Permits and clearances already obtained	
42.	Land Conversion Permit (if applicable)	