# **Environmental Management Plan (EMP)**

## Small-Scale Chicken Farming Project for Egg Production

## 1. Introduction

This Environmental Management Plan (EMP) outlines measures to minimize environmental impacts from a small-scale chicken farming project focused on egg production. The plan covers waste management, odor control, water and energy efficiency, and biosecurity to ensure sustainable operations.

## 2. Project Description

- Location: Farm 37 Municipal Area, Small-scale Farming Sector, Walvis Bay, Erongo Region
- Farm Size: 150 Layer Chicken
- Production Capacity: 800 Eggs per week
- Key Activities:
  - Poultry housing and feeding
  - Egg collection and storage
  - Waste management (manure, wastewater)
  - Feed storage and handling

## 3. Potential Environmental Impacts & Mitigation Measures

#### 3.1 Waste Management

**Potential Impact:** Accumulation of chicken manure leading to soil/water pollution and odor. **Mitigation Measures:** 

- Manure Handling:
  - Collect manure daily and store in a covered, ventilated compost pit.
  - Compost manure with carbon-rich materials (straw, sawdust) to reduce odor and produce organic fertilizer.
  - Avoid direct discharge into water bodies.
- Dead Bird Disposal:
  - Use incineration, deep burial (following veterinary guidelines), or composting in sealed bins.

• Record disposal to monitor disease outbreaks.

## 3.2 Odor & Air Quality Control

**Potential Impact:** Ammonia and foul odors from manure. **Mitigation Measures:** 

- Ensure proper ventilation in poultry houses.
- Use odor-absorbing materials (lime, zeolite) in litter.
- Maintain dry bedding to reduce ammonia emissions.
- Plant trees/bushes around the farm as a buffer zone.

#### 3.3 Water Management

**Potential Impact:** Contamination from spilled feed, manure, or cleaning chemicals. **Mitigation Measures:** 

- Install proper drainage to prevent runoff into nearby streams.
- Use water-efficient drinkers (nipple systems) to minimize spillage.
- Avoid excessive washing; use dry cleaning methods where possible.
- Store wastewater in a sealed tank if reuse (e.g., for irrigation) is planned.

#### **3.4 Energy Efficiency**

**Potential Impact:** High energy use for lighting and ventilation. **Mitigation Measures:** 

- Use energy-efficient LED lighting.
- Install solar panels for partial energy supply (if feasible).
- Optimize natural ventilation to reduce reliance on fans.

#### 3.5 Feed Management

**Potential Impact:** Spillage attracting pests or contaminating soil. **Mitigation Measures:** 

- Store feed in rodent-proof containers.
- Clean feed spills immediately.
- Source sustainable feed to reduce environmental footprint.

## 3.6 Biosecurity & Disease Control

**Potential Impact:** Disease outbreaks affecting chickens and local wildlife. **Mitigation Measures:** 

- Restrict farm access to authorized personnel.
- Implement footbaths and disinfection protocols.
- Vaccinate chickens as per veterinary recommendations.
- Monitor flock health regularly.

#### 4. Monitoring & Compliance

- Weekly Checks: Manure storage, odor levels, water spillage.
- Monthly Inspections: Feed storage, biosecurity measures.
- **Record Keeping:** Log manure disposal, water usage, and disease incidents.

#### 5. Emergency Preparedness

- Spill Response: Keep absorbent materials (sawdust, sand) for feed/chemical spills.
- **Disease Outbreak:** Isolate sick birds immediately and consult a veterinarian.

#### 6. Conclusion

This EMP ensures that the small-scale chicken farm operates sustainably with minimal environmental harm. Regular monitoring and adaptive management will help maintain compliance with local environmental regulations.

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