European Bank
for Reconstruction and Development

Sub-sectoral Environmental and Social Guidelines: Animal Husbandry

PROCESS DESCRIPTION

This guideline covers the breeding of animals, and managed weight gain prior to resale or slaughter.

Husbandry can include the production of by-products from the animals such as eggs and milk, but the particular issues of egg production are dealt with in more detail in the Poultry Production Guideline. It also takes into account feeding, shelter, disease control and the general welfare of the animals.

It should be noted that "new" agricultural production may require an Environmental Impact Assessment (EIA) depending on the requirements of the specific countries where it is taking place. Certain large-scale operations may require an environmental authorisation.

KEY ENVIRONMENTAL, HEALTH AND SAFETY RISK/LIABILITY ISSUES

Pollution of Surface Water and/or Groundwater from Manure Wastes

Animal husbandry processes produce a large volume of liquid slurry and solid wastes containing manure. There is a risk of organic wastes (faeces, urine, blood etc.) entering and polluting watercourses from direct runoff from a husbandry site, or from soakaway infiltration from slurry/waste storage areas.

Pollution of Surface Water and/or Groundwater from fertilisers or pesticides

Chemical fertilisers and pesticides are applied to fields to produce fodder crops for animals to feed on. The excessive application of fertilisers and pesticides may lead to the contamination of water supplies.

Toxic pesticides, which can biodegrade very slowly, can accumulate in body tissues and are harmful to ecosystems and potentially to human health. Pesticides may enter agricultural products, ground and surface water and the human body via the food chain.

Spread of Disease

The animal husbandry product may become adulterated with pesticides, growth hormones, other chemicals and pathogens that affect its quality. These include Mad Cow Disease (Bovine Spongiform Encephalitis), foot and mouth disease or Avian Influenza.

The spread of disease can result in the termination of large quantities of animals and significant economic loss. Disposal of contaminated carcasses can also add to surface or groundwater contamination risks.

Exposure to Infected Animal Fluids and Wastes

It is likely that those working within the animal husbandry sector will come into contact with animal body fluid and animal wastes directly and indirectly on a daily basis.

Exposure to animal body fluids can cause common occupational infections such as Bovine Tuberculosis and Q Fever.

Exposure to animals waste can cause Viral Gastroenteritis, Salmonellosis, Leptospirosis and Toxocariasis amongst other diseases.

Close contact with infected poultry may also cause infection with Avian Influenza.

Collision

Handling any large animal inevitably involves a risk to handler of injury from crushing, kicking or butting. The risk increases where the work involves animals that have not been handled frequently. The risk of vehicle strike can also be considered to be prevalent from both on farm and access road related vehicle movements.

Slips, Trips and Falls

Slips trips and falls are regular occurrences in farming environments and result in many injuries. Typically these are because of uneven ground and poor housekeeping

Handling, Lifting or Carrying

Many injuries from farming are associated with handling, lifting and carrying heavy or unconventional shaped objects.

OTHER ENVIRONMENTAL, HEALTH AND SAFETY RISK/LIABILITY ISSUES

Water Supply and Wastewater Management

An adequate supply of water is required for watering livestock and washing out barns, milking parlours etc. Water can be taken from municipal sources, abstraction wells, boreholes or rivers. Permits and charges will usually be required for water abstraction.

Animal husbandry will produce large quantities of wastewater contaminated with high concentrations of organic wastes. Wastewaters may be sent to soakaway, spread on land, discharged to surface watercourse, or to sewers. Large husbandry units may have, or be required to have, wastewater treatment facilities. As with abstraction, discharge of wastewaters will often require permit and charges.

Storage of Oils, Gases and Chemicals

Some oils and chemicals are utilised. Typical storage facilities include the following:

- Bulk storage fuel tanks (above and below ground);
- Drums of assorted pesticides, disinfectants.

Solid and Hazardous Waste Management

Typical wastes may include solid manure, slurries and sludge, animal carcasses, used dips/pesticides and waste oils. The status of these wastes should be considered under the Waste Management Regulations.

Other wastes that may be produced include packaging wastes such as plastics.

Energy Use and Emissions to Air

The animal husbandry industry is an intensive user of energy. Energy usage has a direct impact on operating costs and in some countries taxes and levies may be applied to reduce energy usage and associated emissions of carbon dioxide.

Emissions of gases like Ammonia and odour arise from processes such as effluent treatment. Dust and particulate emissions can be a factor from processes such as milk drying and the transfer of materials. Fugitive emissions (air emissions that are released other than those from chimneys or vents) may also arise from refrigeration, cooling or effluent treatment systems.

Welfare/Ethical Issues

Welfare/ethical issues associated with animal husbandry are becoming of increasing financial relevance and may include:

- Housing capacity and hygiene standards;
- Diet of animals, especially where medicines or hormones are used in the husbandry of animals;
- Method of transport;
- Behavioural requirements of animals.

Farming Practices

General farming practices which may cause nuisance include damage to sensitive areas of high ecological value.

Occupational health and safety hazards relevant to the agricultural crop production sector include:

Temperatures

Most animal husbandry work is conducted outside or in non-heated buildings; therefore there are hazards associated with both hot and cold weather.

Contact Dermatitis

Inflammation of skin due to contact with substances that cause irritation or allergy occur.

Noise

Operating farm machinery e.g. tractors, slaughtering equipment and large quantities of animals in close proximity to each other can result in hearing loss to those exposed to the noise.

Asbestos

Asbestos has been used on a large scale for many years as fire proofing and insulation material and may be encountered in a wide range of forms including asbestos cement boards, as fire retardant gaskets in pipe work and as fire retardant insulation around boilers and furnaces. Particular attention should be paid to farm buildings constructed prior to the 1980's.

KEY SOCIAL, LABOUR, AND COMMUNITY RISK/LIABILITY ISSUES

Living in Proximity to Infected Animals

Employees and local residents may be exposed to infectious diseases carried by farmed animals. Disease may be spread by close contact, between animal or animal wastes and humans. A number of diseases can be spread via water.

Exposure to Contaminated Drinking Water

Ground or surface water can become contaminated by animal wastes, fluids or from other waste products associated with animal husbandry. Local extraction sources may become contaminated. Those drinking the contaminated water may also contract water born diseases.

Odour Management

Offensive odours may be produced from livestock housing, manure and slurry storage or disposal and dust production. Odour intensity is dependent on the size of operation, the type of building and ventilation, the type of operation, feeding cycles, operation management and slurry waste disposal. The impact depends on proximity to local residents and other sensitive receptors, and the nature of the local topography and prevalent weather conditions.

Noise Derived from Husbandry Process

Noise derived from feeding, housing or slaughtering animals may cause a nuisance to local residents. In addition, noise may be generated by packaging or filling machinery which are typically located in enclosed buildings.

Vehicular Accidents

Public rights of way may cross agricultural land where heavy machinery is applied to the soil, providing a risk of accident. In addition, agriculture related vehicles use public highways at times for access. This may affect pedestrians and other road users.

FINANCIAL IMPLCATIONS

Potential financial implications from the environmental risks and liabilities identified in the previous section are wide ranging and may include:

- Potential clean up costs for soil and groundwater contamination arising from the pollution caused by effluent storage and discharge;
- Fines for the contamination of watercourses or groundwater from runoff containing pollutants or effluent discharges to surface water without license;
- Capital expenditure for installing or upgrading irrigation systems, water storage provisions and water conservation/recycling systems;
- Capital expenditure from installing or upgrading animal housing facilities to improve animal welfare;
- Spread of animal borne diseases may affect production capabilities and may damage future generation production at the facility;
- Spread of animal bourn diseases may cause product liability issues limiting saleability;
- A food product recall caused by contaminated or adulterated food products can damage a viable business;
- Odour migration may cause nuisance to neighbouring properties;
- Inadequate safety provisions for workers may lead to health and safety claims from affected employees.

IMPROVEMENTS

Environmental Improvements

- Potentially improvements in housing of livestock to meet the standards set out in EU Council Directive 98/58/EC of 20th July 1998;

- Installation of, or improvements to wastewater collection and treatment technology;
- Use animal waste as fertiliser to promote feedstock growth and to reduce waste production;
- Provision of secondary containment for bulk fuel oil and chemical storage areas to contain spills;
- Conduct and document regular inspection testing of tanks;
- Leak proof containment and storage system for silage and animal effluent;
- Implement accident management plans to conduct risk assessment and assess the techniques required to mitigate risks;
- Monitor all materials held on site and implement clear procedures for their handling and treatment in the event of spillage, particularly where these materials may impact on human health or the local environment;
- Regular integrity testing of bulk storage tanks and drums. Secure valves on oil and fuel supplies;
- Implementation of water conservation measures (e.g. holding areas);
- Implementation of waste segregation and reclamation programmes;
- Use anaerobic digestion of animal waste to generate biogas fuel that can be used as a source of electricity where practicable;
- Make improvements to general housekeeping.

Health and Safety and Hygiene Improvements

- Separate people from animals and vehicles were practicable;
- Ensure drivers are properly trained to operate the machinery and equipment;
- Use mechanical lifting devices where practicable;
- Enclose noise machinery or animals to isolate people from the noise where practicable;
- Fit vehicles with rollover protective structures;
- Improve ventilation in buildings;
- Implement best practice procedures for hygiene following exposure to animal liquids or solid wastes;
- Provide washing and cleaning facilities for employees;
- Install correct guarding to protect workers from being trapped within groups of animals/equipment;
- Procedures for maintenance and operation of mechanical machinery and vehicles around other members of staff;
- Provide personal protective equipment suitable to protect staff from pathogens and other animal diseases;

- Maintain and update emergency action plans for outbreaks of diseases;
- Introduce odour management measures around site boundary where possible;
- Ensure security of waste, chemical and product storage areas to prevent misuse by third parties or damage to property.

GUIDE TO INITIAL DUE DILLIGENCE SITE VISITS

When visiting the site of potential borrowers or during loan supervision, investee companies should use the following as a practical guide to due diligence:

- Perform a complete tour of the works, accompanied by someone knowledgeable about all the activities at the works;
- Check for signs of pollution in water courses and note the colour of water;
- Observe signs of bad housekeeping, inadequate hygiene precautions e.g. rodents, flies, stock cleanliness and skin diseases;
- Note nature and location of solid waste and wastewater storage and disposal;
- Look for localised spills, leaking pipes etc; check whether fuel storage tanks are tested regularly for leakages;
- Note location and condition of product storage areas (e.g. tanks, refrigerators);
- Review the history of the site and the area, particularly any previous industrial use, in order to assess the likelihood of soil and groundwater contamination;
- Assess emergency procedures to fires, pollutant spillages etc;
- Note/enquire about communications from/with the relevant local regulators regarding non compliance/fines and/or warning letters;
- Note any fines/fees against the site;
- Find out whether there have been any fatalities/significant environmental health & safety incidents;
- Is the facility next to any industries which may pollute groundwater used in the husbandry process;
- Check housing conditions and welfare standards;
- Check livestock densities versus mortality rates and how they compare to the industry average for the sector;
- Find out the frequency of veterinary inspections and examine vaccination certificates for animals on the farm and in the supply chain;
- Check waste discharges and water abstraction permits, plus any necessary veterinary certificates;
- Note any excessive odours that may cause a nuisance. Note proximity to nearest residential areas and prevailing wind direction;
- View procedures for food safety programmes (e.g. quality assurance testing);

- Assess the level of health and safety awareness at the farm, for example the presence of safety notices and the general appearance of the site;
- Find out what insurances are in place (health, hygiene, fire etc);
- Note any complaints made by customers, general public and/or employees directly to the site and/or to the relevant local regulators;
- Is the facility subject to any audits by customers? What was the outcome of these audits?
- Does the business plan have line items for Environmental, Health & Safety improvements?
- Check that labour standards, contracting and remuneration are in line with national law and are consistent with the average for the sector.
- Check that hours worked, including overtime, are recorded and staff should receive written details of hours worked and payment received.
- Has the Company received inspections from the local labour inspectorate in the previous three years? Have these resulted in any penalties, fines, major recommendations or corrective action plans?
- Does the organisation have a grievance mechanism which allows employees to raise workplace concerns?
- Are employees free to form, or join, a worker's organisation of their choosing?

Take note/ask questions relating to any activities that address improvements listed in the improvements section of this document;

ACTION PLANS

Dependent on the individual business, select appropriate improvements from the list above to include in the action plan. As a minimum any business should be required to have the following in place:

- Operational procedures to manage environmental, and occupational health & safety risks;
- Monitoring programmes to monitor environmental, health & safety and hygiene risks;
- Improvement objectives, targets and project plans;
- Training for personnel;
- Regular inspections, checks and audits with records to demonstrate achievement of the required level of performance against legal requirements and improvement action;
- Emergency plans for environment, health & safety, and food safety accidents;
- Food safety management plans;
- Management review/demonstrated involvement in environment, health & safety and hygiene management.

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