

**Environmental and Labor Issues:**

**Classification:** This is a category III project according to the IIC's environmental and labor review procedure because it could produce certain effects that may be avoided or mitigated by following generally recognized performance standards, guidelines, and design criteria. The following potential environmental issues were analyzed during project appraisal: third-party certification in good environmental practices (i.e. ISO 14001, ISO 9001), quality control and food safety management, waste handling, liquid effluent, general worker health and safety, and other labor-related issues.

**Environmental and social management:** Several of the Jamaican Broilers Group companies have obtained international certifications for environmental management and quality control. The Best Dressed Chicken Processing facility is ISO 14001 certified in Environmental Management Systems; Aquaculture Jamaica Limited is ISO 9002 certified in Quality Control Systems as well as HACCP; the feed mill anticipates obtaining certification in ISO 22000 in Food Safety Management Systems, and JB Ethanol Limited in ISO 9000 certification.

**Emergency Preparedness and Response:** The Group's overall emergency preparedness and fire prevention programs were observed to be adequate. The ethanol plant, which has the highest risk of fires, is compliant with U.S. NFPA fire safety guidelines, as well as with U.S. OSHA (Occupational Safety and Health Administration) regulation 29 CFR 1910.119 (Process Safety Management of Highly Hazardous Chemicals). The ethanol plant also has safety manuals, an Emergency Action Plan, a Fire/Explosion Safety Plan, and a Hurricane Preparedness Plan and Procedures in place. It has 800,000 gallons of fire water stored on site, 23 fire hydrants, 4 reeled 131-pound extinguishers and 25 charged handheld fire extinguishers, a sprinkler fire suppression system in the motor control center, and alcohol-resistant foam water, amongst other fire prevention features. As a safety measure for preventing the risks of explosion and fire in storage tanks and facilities, there are systems of grounded tanks and retaining walls for tanks storing flammable liquids. First aid training and monthly fire drills are conducted and the plant shares an ambulance with the nearby feed mill. Incident records are maintained and accidents are investigated. Hazardous chemicals at the various facilities were observed to be properly stored with adequate signage and corresponding MSDS sheets. Various companies within the Group will improve the emergency exit and evacuation route signage, including emergency lighting, as recommended by the IIC.

**Quality Control:** Workers receive basic hygiene training for the handling of poultry and other food products. The dress code and hygiene at the facilities was observed to be adequate as workers are required to wear clean uniforms and footwear before commencing work, as well as to disinfect footwear and hands before entering the facilities. The chicken hatchery also has a sanitation program, which is critical to the success of the hatchery. In addition, periodic laboratory tests, such as swab tests, are done in all areas of the hatchery to assess the quality of the cleaning job being carried out. Aquaculture Jamaica Limited is ISO 9002 certified in Quality Control Systems as well as Hazard Analysis Critical Control Point (HACCP) and the chicken processing facility has also been working on implementing HACCP measures.

**Animal welfare:** The chicken processing plant, hatchery, and farms have an animal welfare program in place to ensure that all workers are trained in appropriate handling of the chicks and chickens. In addition, the Company's clients audit the facilities to determine whether the birds are handled humanely and any suffering is minimized. For instance, the Company ensures that birds are housed on farms in shelters that are clean, well ventilated, and that the birds are free to roam through the shelters. The birds are caught and transported carefully, minimizing injury. Stunning equipment is maintained to confirm that birds are relaxed and not frightened prior to slaughter, and slaughter equipment is maintained to ensure that birds are slaughtered quickly.

**Waste management:** One of the main sources of waste is generated at the chicken processing plant where the offal from the rendering plant is generated. The offal waste is separated from the waste stream and collected by a third-party contractor that removes it and transports it to a city disposal site; this waste is buried on a daily basis in accordance with the National Solid Waste Management Authority. Similarly, at the hatchery the waste consisting primarily of eggshells and excrement is collected and transported to an authorized off-site landfill. The company's waste management practices have reduced the odor to negligible levels. The Group will continue to ensure that the waste management practices at all of its companies are in compliance with the requirements of the National Solid Waste Management Authority, as well as international best practices.

**Liquid effluent:** The Group has wastewater treatment systems in place for its facilities. Various companies within the Group are also working on further improving existing treatment systems as necessary in order to ensure full compliance with Jamaican NEPA effluent standards. The chicken processing plant has a wastewater treatment system that consists of a dissolved air flotation (DAF) unit, a clarifier, as well as anaerobic ponds, aerated lagoons and maturation ponds. In addition, the blood from the chickens is drained and carried via truck off site for treatment in a wastewater treatment facility operated by the National Water Commission. The liquid effluent from the system is used for irrigation. The company is working on making modifications to this treatment system as well as reducing water consumption in the plant to further improve the effectiveness of the system, particularly regarding fecal coliform and total suspended solids levels. Similarly, the feed mill will analyze ways to further improve its wastewater treatment system, particularly focusing on the reduction of phosphates and nitrates in the liquid effluent stream. The corrective actions to be taken by the Group companies to ensure compliance with Jamaican regulations will be included in the Environmental Management Plan (EMP) to be prepared by the Group as required by the IIC.

**Air emissions:** The majority of the power supply for the companies that are part of the Jamaican Broilers Group comes from the national grid, with the exception of the chicken processing plant, which obtains energy from the adjacent cogeneration plant. The cogeneration plant consists of three medium speed diesel engines (rated at 5 megawatts each), two Caterpillar engines for stand-by purposes, one heat recovery steam generator (HRSG) that utilizes the hot gases from the engines to produce steam for the chicken processing facility, and an auxiliary boiler. The emission sources from the cogeneration facility include the oil-fired boilers, the medium speed diesel engine, as well as the stand-by diesel generators. An air dispersion model for the cogeneration plant was recently completed in December 2008 in order to assess the level of compliance with Jamaican ambient air quality standards. It was determined that the predicted concentration for carbon monoxide and particulate matter meet the Jamaican Ambient Air Quality Standard (JAAQS). As a result of study, the Company will develop corrective actions to ensure compliance for nitrogen oxide and sulfur dioxide levels. In addition, the feed mill plans to assess further alternatives to reduce fugitive dust emissions at its plant. The Group will continue to monitor the air emissions at all of its companies to ensure compliance with national requirements. These corrective actions will be included in the Environmental Management Plan. In addition, various companies within the Group are working towards identifying ways to reduce energy consumption through energy efficiency measures.

**General Health and Safety:** Workers at the companies visited were observed to be using the appropriate protective equipment. In addition, all employees are provided with health insurance and first aid. Workers handling and applying pesticides are trained and are provided with suitable protective clothing, as per the instructions on pesticide labels, appropriate to the posed health and safety risks.

**Labor:** The Group maintains harmonious relations with its workers across the organization, by implementing and coordinating several programs, which include training and development, reward

and recognition programs, and benefits programs. Employees are free to join a union; however there are none presently at the Company. In addition, all workers are provided with lunch and other benefits. The Group complies with Jamaica's requirements in terms of minimum work age, elimination of forced and compulsory labor, the elimination of discrimination in respect of employment and occupation, freedom of association, the right to organize, and collective bargaining. Jamaica is also a signatory to the ILO conventions on abolition of child labor.

**Monitoring:** Jamaican Broilers Group will develop an Environmental Management Plan (EMP), which will include a schedule for the implementation of environmental projects and a monitoring and reporting program to ensure that the companies within the Group comply with national laws and the IIC's environmental guidelines. The EMP will describe who will be responsible for monitoring the implementation of environmental activities. Jamaican Broilers Group will submit an annual report summarizing the monitoring data related to each of the companies that is part of the Group.