Food and Agriculture Organization of the United Nations

Construction of hurricane-resistant poultry pen, Grenada

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Country of first practice	Grenada
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Sustainable Development Goals	Industry, innovation and infrastructure, climate action, and life on land

Summary

The construction of low-cost and hazard-resistant poultry units is a disaster mitigation measure as it ensures immediate post disaster food availability and protects income source. The construction of hurricane resistant farm structures was recommended during a national workshop in Grenada as one of the most easily reproducible, effective, affordable, and sustainable disaster risk reduction strategies for the Caribbean region. This practice describes steps needed to build a poultry unit.

Description

Protecting poultry during hazardous events is crucial because poultry is an important livelihoods asset for farmers. Post hazard selling of eggs or poultry increases farmers' flexibility and ability to quickly recover after a hurricane has occurred.

1. Implementation of the technology

1.1 Implementation steps

- Build concrete walls at least 2 feet underground and 8 inches (20.3 cm) above the floor area, with posts cast 1 foot into concrete wall and studded with galvanized nails.
- Posts should be 8 feet (2.44 m) tall on the long sides and 10 feet (about 3 m) or more on the gable or short side and planted 5 feet (about 1.52 m) apart. The higher the gable, the more effective ventilation will be.
- A gable roof is ideal for houses, as opposed to a flat or shed shaped roof, facilitating better heat control.
- Rafters should be placed 3 feet (92 cm) apart and bolted down to the post or the laths with hurricane straps.
- Galvanized sheets should be screwed down to laths, if drive screws are used, each protruding nail must be bent underneath.
- The floor area should preferably be of concrete slab, (2.5 to 3 inches; 6.4 to 7.6 cm) thick, allowing easy cleaning and disinfecting.
- A floor depth of 8 to 10 inches (20.3 cm to 25.4 cm) is recommended for good litter airflow.
- Sixteen gauge 0.5 inch x 1 inch (1.3 cm x 2.5 cm) or half-inch square are the recommended wire mesh for poultry houses. It should be attached from the side of the floor up to the galvanized sheet, so as to keep out wild birds and rodents.
- Where necessary, curtains should always be attached

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from the base of the pen to the optimal height so as to facilitate better control of natural elements (sun, wind, rain). Attaching the curtain from the base gives the farmer greater control in managing the temperature inside the pen since the curtain can be rolled up to the point where protection is needed and not necessarily cover the entire side of the pen.

Figure 1. The floor area should preferably be of concrete slab 2 to 3 inch (6.4 to 7.6 cm) thick so as to allow for easy cleaning and disinfecting. A floor depth of 8 to 10 inch (20.3 to 25.4 cm) is recommended for good litter airflow.

1.2 Implementation and maintenance requirements

- Inputs: Building materials
- Costs: EC$ 2.50 per square foot
- Maintenance: Routine inspection

Figure 2. Curtains should always be attached from the bottom of the pen so as to facilitate better control of natural element such as sun, wind and rain

2. Validation of the practice

The technology was tested in mixed coastal plantation farming systems (in the agroecological zone of warm subhumid tropics).

3. Further reading

- Roberts, Dianne A., Shears, Randolph. 2007. Assistance to Improve Local Agricultural Emergency Preparedness in Caribbean Countries Highly Prone to Hydro-Meteorological Disasters – Grenada Case Study (TCP/RLA/3101), Interim Findings and Recommendations, January 2007.
- Grenada Ministry of Agriculture. 2004. Assessment of damages resulting from hurricane Ivan, URL

3.1 For more information, please contact

Stephan Baas at Stephan.Baas@fao.org

4. Agro-ecological zones

- Tropics, warm

5. Objectives fulfilled by the project

5.1 Pro-poor technology

Poultry units can be built at low costs, and farmers benefit from building them by maintaining their income.