FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

&

MINISTRY OF AGRICULTURE, LANDS, FORESTRY AND FISHERIES

PROJECT TITLE:

DISASTER RISK MITIGATION IN AGRICULTURE

FAO-TCP/STL/3202

IMPACT ASSESSMENT REPORT

(Disaster Risk Mitigation - Livestock)

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ST. LUCIA

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INTRODUCTION

The TCP/STL/3202 – Disaster Risk Management livestock component of the project sought to provide means of improving the resilience of small livestock farmers in St. Lucia to the impact of the ravages of natural disasters such as hurricane Tomas which severely affected both the livestock and crop farming sectors in St. Lucia.

A number of livestock project activities were implemented at various pilot sites during the period May 2010 to December 2010 which included the following:

- The Construction of a hurricane-resistant feed storage shed
- The Construction of a hurricane-resistant small ruminant housing
- The Construction of a concrete floor within an existing a 4000 sq. ft. poultry
- Improved waste management systems on farms – septic tank for swine unit
- Improved waste management systems on farms – construction of a composter
- Improved drainage around livestock housing
- Removal /Pruning of hazardous trees proximal to Livestock structures
- Rainwater harvesting from livestock buildings
- The establishment and maintenance of forage banks for dry season feeding
- The construction of footbaths on farms
- The distribution and erection of hurricane clamps (ties)

The majority of the above DRM have been implemented on livestock farms nationally. Some of them are made mandatory as part of the Veterinary and Livestock Services Division's Animal Production and Health policy guidelines which must be implemented for approval. Others are left to the farmers' discretion and guidance from their regional extension staff for implementation.

SCOPE OF THE REPORT

This report attempts to provide an assessment of the impact of the livestock project activities implemented on selected pilot farms island wide together with field demonstrations at the farm level as part of the training component of TCP/STL/3202. Some photographs are included within the report to demonstrate the adoption of best practices on some farms around the island resulting from the transfer of information from training workshops and field demonstrations during the implementation of the TCP.

MITIGATION AGAINST WINDSTORMS AND HURRICANE FORCE WINDS - The Construction of hurricane-resistant small ruminant housing

At least three farmers around the island have adopted the best practices from this activity. The designs and plans including costing are being distributed to small ruminant farmers by the Veterinary and Livestock Services Division of the Ministry of Agriculture through their commodity officers.

Hurricane clamps from project funds were distributed to thirty two small ruminant, swine and poultry farmers for retrofitting their livestock structures. To date, all these clamps have been installed and new farmers who have recently come into production have been advised to install hurricane clamps ties and bolts to reinforce the roofs and foundations of their structures.

Small ruminant hurricane-resistant structure constructed at Mr. Windy Mangal's farm at Trois Piton, Micoud

Sections of the structure showing installed hurricane ties and clamps, slatted floors and height off the ground level for ease of manure collection – Mr. Mangal's farm, Trois Piton

Elevation of small ruminant hurricane resistant housing at Windy Mangal's Farm

Small ruminant hurricane-resistant structure newly constructed on Mr. Mervin Stephen's farm in Millet, Roseau

Refurbished swine fattening unit at Sir Arthur Lewis Community College farm showing newly installed hurricane ties distributed from project TCP/STL/3202

Hurricane clamps were installed at the roof joists and roof supports of the swine housing unit at the SALCC College farm. The section of the roof which was blown down by strong winds from Hurricane Tomas had not been retrofitted with clamps. The refurbished structure is now fitted with clamps which were distributed via the TCP.

OTHER WINDSTORM MITIGATION IMPACTS ON FARMS

Many livestock farmers have become sensitized to other wind mitigations measures such as tree pruning and removal of hazardous trees in the vicinity of farm buildings which were demonstrated at one pilot site in the Mabouya Valley. It is now becoming acceptable as standard practice to prune which pose a threat to homes and farm structures prior to the commencement of the hurricane season.

DROUGHT MITIGATION- Rainwater harvesting from livestock buildings

This DRM feature has now become common practice on many if not all St. Lucian farms. The Veterinary and Livestock Services Division has made it mandatory that all livestock structures approved for construction should include an acceptable rain water harvesting system. The pictures below show some installed rain water harvesting apparatus on farms post Tomas. This demonstrates the significant impact the project has had on beneficiary and non-beneficiary farmers around the island.

Water tanks and rain water harvesting apparatus installed on farms in Gros Islet and Mabouya Valley (Sir Arthur Lewis Community College Farm)

Rain water harvesting from Poultry buildings at Sir Arthur Lewis Community College Farm in Mabouya Valley.

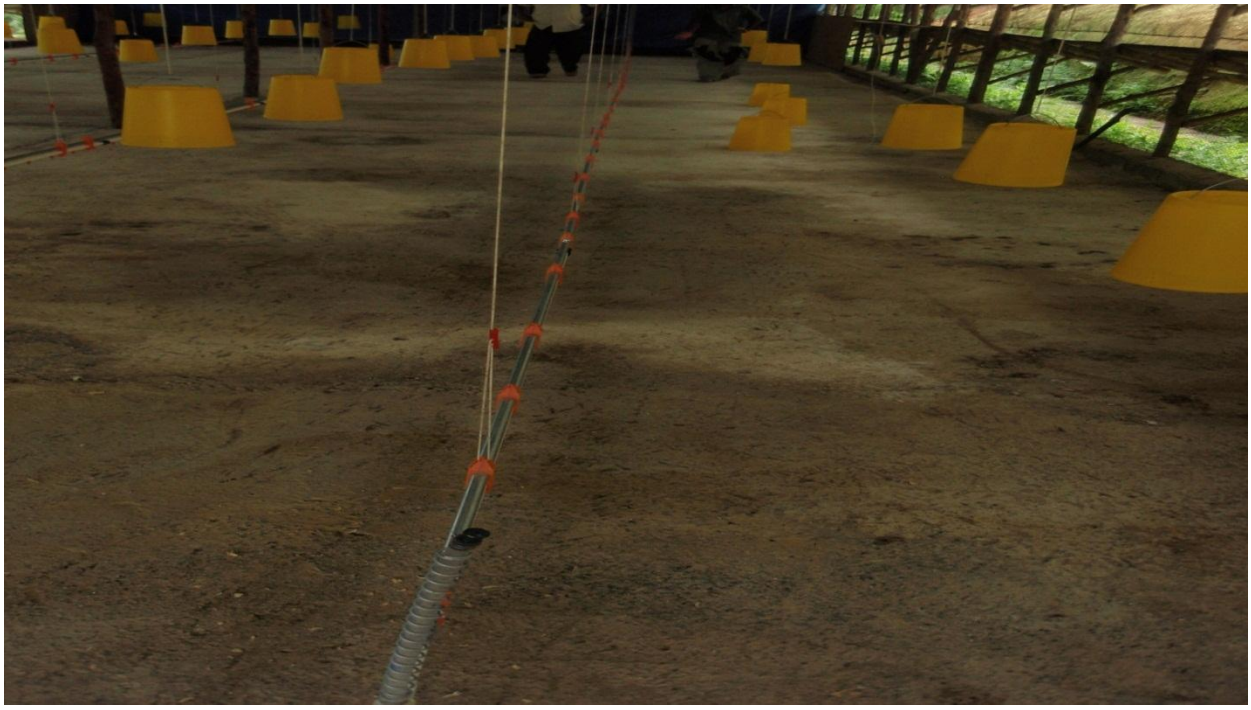
Weed control (land sprayed with Touchdown herbicide) in preparation for forage bank establishment at Beausejour Agricultural Station small ruminant farmers plot as part of TCP/RLA/3310 forage production and conservation activities

The establishment of forage banks as an essential DRM feature on farms has recently been gaining popularity particularly in the southeastern, southern and southwestern parts of St. Lucia where predominantly small ruminants are reared and these areas are generally most severely affected by drought annually.

TCP/STL/3202 has demonstrated the need for establishment of forage banks for dry season feeding particularly in drought stricken parts of the island. Livestock farmers have been convinced of the need to begin to concentrate on forage production and conservation practices. Workshops under the TCP have been conducted in an effort to educate and sensitize them of such a need.

Under TCP/RLA/3310 small ruminant farmers affected by hurricane Tomas will benefit from the distribution of selected forage seeds for the purpose of establishing forage banks for the purpose of forage production and conservation. The photograph above shows preliminary work for the establishment of a demonstration plot at the Beausejour Agricultural Station.

DISEASE MITIGATION IMPACT- Concrete flooring, footbath and inline automatic waterer installation



Concrete flooring in newly constructed Broiler Unit at Windy Mangal's farm in Trois Piton

DRM features – footbath, concrete flooring and rain water harvesting for newly constructed broiler unit at Gros Islet.

Construction and installation of footbaths at Mr. Garib's farm broiler farm at Beausejour, Vieux Fort

Installed Inline automatic waterer compared with hanging automatic waterers - (Pictured in red) to reduce the risk of water contamination in broiler units

Since the implementation of TCP/STL/3202 at least six new poultry who have recently come into production have constructed concrete floors for their pens in an effort to adhere to the Veterinary and Livestock services guidelines for production to mitigate against the risks of diseases at the farm level and the spread of infections between farms. It has become standard practice to construct footbaths on all livestock farms. These measures enhance the bio-security features which are so important in maintaining health and sanitation standards on livestock premises. The TCP has contributed significantly toward providing design plans, pilot demonstration sites and costing for enhancement of implementation of these measures.

FLOOD MITIGATION IMPACT- Improved drainage around Livestock buildings and construction of elevated floor structures.

In an effort to minimize the risks of flooding, a number of initiatives have been implemented on livestock farms island-wide. Among these mitigation measures are the construction of new farm drains and the maintenance of existing farm drains. Small ruminant farmers have begun constructing raised floor housing units to reduce the threat of flooding. The farmers have applauded the FAO and the Ministry of Agriculture in providing technical and financial assistance toward the development of pilot project activities which they have adopted on their farms.

Cleared earthen drain around a poultry building post hurricane Tomas in preparation for the hurricane season 2011- Farm in Babonneau.

Following the DRM training exercises and field trips to demonstrate the importance of clearing existing drains and the construction of proper drainage in the vicinity of livestock structures, a number of drains have been constructed and maintained on livestock farms around the island.

Construction of small ruminant structure with raised floor to mitigate against flooding and improve sanitation and reduce the threat of diseases

Raised slatted floors with concrete gently sloping bases assist tremendously in easy cleaning and manure collection for direct sale or for composting. Disinfection of the premises is much more readily facilitated and hence the reduction of odours and threats of disease.

CONCLUSION

True significant impacts of all DRM measures implemented under TCP/STL/3202, it is envisaged, will be realized prior to and during the course of the 2012 hurricane season. Some strides have been made during the 2011 trans-Atlantic hurricane season to sensitize the farming public about mitigation measures which need to be adopted at the farm level, however, greater efforts at sensitizing farmers of the importance of these mitigation measures need to be effected through the MALFF extension training programmes.

The Veterinary and Livestock Services Division has made a commitment to ensure that all new livestock production enterprises should include DRM measures in their design plans and that it will do its best to ensure that these measures are duly implemented to improve the farmers' resilience to the ravages of future disasters.