

## **Extension Post-Disaster Readiness: Perspectives of Dominica's Farmers and Extension Officers**

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### **Introduction**

In August 2015, Dominica was ravished by Tropical Storm Erika which left an estimated 500M USD in damage. The agriculture sector was especially hard hit. McCarthy (2001) reported Dominica has experienced several storms since 1979 which significantly negatively impacted the agricultural sector. Dominica's economy depends largely on agriculture, livestock, and fisheries (FAO, 2006); hence efforts must be made to mitigate losses due to these storm events.

No research has examined the preparedness of Dominican extension to respond to disasters and limited research exists globally. However, Telg et al. (2008) found extension agents in a U.S. state were not adequately prepared to apply their subject matter expertise following a disaster or to address the emotional needs of colleagues and clientele. While there is a Disaster Management Unit in Dominica, extension is under-represented. The state-run extension unit should be prepared to assist its farmers in the event of a disaster; this competency is of utmost importance for a small nation particularly vulnerable to severe weather patterns.

### **Purpose**

This study sought to assess the readiness of extension to deliver on the expressed needs of vulnerable farming communities post-disaster. The study specifically sought to: (a) identify the major needs of farmers post-disasters; (b) describe the level of response received by farmers post-disasters; and (c) describe the current level of preparedness of extension staff to respond to the expressed needs of farmers.

### **Methodology**

The descriptive study surveyed 15 extension officers (50% of the population) and 100 farmers, proportionately chosen from the seven agricultural regions in Dominica. The extension officers consisted of two officers per district. Farmers were randomly selected from the list of registered farmers in each region.

The survey instrument for the extension officers comprised four sections: (a) staff personal needs post-disaster, (b) professional needs, (c) communication efforts, and (d)

demographics. The farmers' survey instrument consisted of five sections: (a) needs and assessment of support given after a disaster, (b) farmer groups, (c) communications, (d) barriers to accessing resources, and (e) demographics.

The instrument was examined for validity by experts in the extension field with academic and practitioner backgrounds, then pretested in Grenada with six extension officers and 10 farmers. Two questions related to sources of assistance were edited to expand response options.

The survey was conducted during July 2015 using face to face interviews. Descriptive analysis of the data was conducted using SPSS version 17. Most of the responding extension agents had more than ten years of work experience (73%) and were mainly District Officers (53%). Over half possessed a diploma (53%); only 6% completed a Master's Degree. The majority of farmers were male (80%), had over fifteen years of experience (78%), and were over 50 years old (72%).

## **Findings and Conclusions**

### *Farmers' Perspectives on Needs and Level of Response*

The majority of farmers (95%) reported they experienced hurricanes and 91% experienced drought. This was consistent with the responses of the extension officers where 100% reported drought and 87% hurricanes during their tenure. Hurricanes were identified as the most frequent disasters by both extension officers (67%) and farmers (49%).

Farmers identified their immediate needs after a hurricane as financial assistance (95%), planting material (89%), and fertilizers and pesticides (90%). They reported these same needs existed six months after experiencing the disasters (94%, 75%, and 92% respectively). While most farmers indicated they received assistance for their physical needs (73%) and were aware the majority of assistance given came from the Ministry of Agriculture through extension, some 66% indicated they were not satisfied with the response time by extension while only 22% stated they were satisfied. A majority of farmers (96%) reported they got no support for their emotional needs. Farmers identified unavailability of resources (76%) and political affiliation (78%) as major barriers in accessing resources after a disaster.

Regarding a plan for disaster management, the majority of farmers (56%) indicated they were not aware as to whether the Extension Division had a plan and 23% believed there was no plan. Half of the farmers (50%) indicated extension had not provided any sort of training for farmers in disaster management.

### *Extension Officers' Perspectives on Preparedness*

Most extension officers reported they had no support for their physical needs and similar to the farmers, the majority (73%) indicated no support for their emotional needs. Officers reported transportation as their greatest need (53%) to respond to farmers in a professional manner, supporting the slow response time reported by the farmers. While 67% responded as having had training in disaster management, the majority identified their greatest professional development needs were in the areas of hurricane disaster recovery efforts (53%) and helping farmers cope with stress (47%). Such training is a prerequisite for a disaster management plan, as suggested by Telg et al. (2008).

## **Recommendations, Educational Importance, and Implications**

Extension officers need to be trained in the area of disaster management and mitigation strategies prior to the start of hurricane season annually. In turn, extension officers should provide annual disaster preparation training to farmers. This might be accomplished through

increased strategic collaboration with the National Disaster Management Agency and Agricultural Extension Delivery Departments guided by improved national policy on coordination between different agencies. Better governmental interagency collaboration will also be needed to address the stated needs and barriers by improving access to financial assistance and improving infrastructure to facilitate better response times by extension officers.

The importance of psychological preparation should not be overlooked, since neglect of psychological support after a disaster can impair efforts at physical rehabilitation (WHO, 2006). Extension officers are not trained mental health professionals, therefore the expectation must be to prepare officers to share appropriate mental health resources with their clientele. Officers should be taught to recognize the signs of a mental health crisis situation and how to get farmers assistance, as well as how to recognize when they need to seek help themselves. In these ways, extension will be able to improve the welfare of farmers by fulfilling vital technical and social service roles the next time disaster strikes.

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