Small-Scale Agriculture, Climate Information and Risk Management:
Implications For Small Family Farmers and Ranchers

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Present by
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The Institute

The North-South Institute serves Small Family Farmers and Ranchers in twenty (21) domestic production clusters in the Delta (Arkansas, Louisiana, Mississippi), and the Southern States of Alabama, Florida, Georgia, and South Carolina.

As well through partnerships, the institute serves twenty-five (25) production clusters overseas in selected countries in the Caribbean, Central America, Africa, Eastern Central Europe and Asia.
Abstract

In the US, limited resource farmers, socially disadvantaged farmers and transitioning Caucasian farmers are mainly engaged in enterprises that are not normally covered by the Federal Crop Insurance Scheme.

To mitigate the elements of hurricanes, droughts, floods and freezes, which contribute to production risks, farmers have resorted to participation in Noninsured Crop Disaster Assistance Program (NAP), technical assistance and training projects on non-insurance based risk management strategies.

While these have demonstrated some benefits to these farmers there are faced with major constraints when it comes to climate information.
These are due to the following reasons:

Disinterest in climate information and other related areas that are not promoted among the universities and NGOs that serve these groups.
Lack of awareness of the advantages and use of climate information that when forecasted accurately, and with a sound farm plan can reduce losses on these farms.
Lack of a disaster preparedness plan on these farms.
Poor record keeping especially those that could be used in planning when combined with climate information.
In some regions there over indulgence and belief that they should rely on disaster payments.
Cultural apathy among small farmers in the belief that adverse weather conditions while natural, it is indomitable useless to plan for and to prepare alternatives.
These are limited resource farmers, socially disadvantaged farmers and transitioning Caucasian farmers who have experienced another level of hardship over the last decade.

These are associated with effects that include the following:

A series of hurricanes in Southern and Northern Florida and Central Mississippi.

Prolonged and sustained droughts in the Delta States, Southern Alabama, North Florida, Southeast Georgia and South Carolina, and

A hard freeze in Southern Florida.
This presentation will address the following:

- Small Farmers and Ranchers and their attitudes toward Climate information and Risk Management
- Types of Climate Information that are most relevant to these farming clusters
- How partnerships can be developed to allow for universities, CBOs, and NGOs that serve these farming groups, to implement programs that will ensure that the effects of adverse weather conditions that result in agricultural losses can be minimized.
The Challenge

The resource challenged individuals and communities, the poor, use to be subsidized by nature.

It was easy to predict what season the sun will shine to grow a healthy crop, what season the rain will fall and the river will bring its nutrients as fertilizer to the fields.

With an imbalance of growth and development this level of predictability no longer exists.

This level of unpredictability coupled with poor judgment have resulted in choices on small farms that when exposed to the vicissitudes of nature results in major losses and burden to those individuals and communities.

To reduce these losses and burden to these communities, individuals engaged in agricultural must adopt and use Climate Information as part of the non-insurance based risk management tools.
As background, let us examine the farmers’ experiences when the Southern U.S region was exposed to El Nino and La Nina weather patterns over the period 2000 – 2007[1] during the decade (1990 -1999) to the new millennium year in the Delta States (Eastern Arkansas, Northern Louisiana, and West and Southwest Mississippi), and Southern States (Southwest Alabama, Southern Georgia, South, North central and North Florida) small farmers traditionally were able to grow successfully under rain-fed conditions crops like:

Sweet Potato
Okra
Watermelon
Southern Peas
Crooked Neck Squash
Hot Peppers
Green Beans

[1] The shift in trade winds is called Southern Oscillation. When the winds blow to the east, they create El Nino. When the winds blow to the west, we call it La Nina.
Toward the middle of 1995, major droughts that appears to be perennial caused major devastation. In fact, over the period 1996 – 1999 these incidences had become so predictable that the Universities and CBOs/NGOs that serve these farmers, would caution that there could be major loan defaults. Farmers became so dependent that there were anecdotal responses that were engaged in growing for disaster payments. It was reported that the NAP program was excoriated. Several conflicts arose resulting in the program promoted where loans could be offered to farmers, who had irrigation. But persistent droughts were not the only issue. During 1997 -99 seasonal temperatures were so harsh that transplanted seedlings, planting slips wilted overnight after vigorous growth initially.
Figure 1. Beans under drought condition

Figure 2. Fields after Hurricane

Figure 3. Farmers planted Asian vegetables under Micro irrigation

Figure 4. Field after hurricane in Redland
In the South especially South Central and South Florida during that period, the winters were harsh on those farmers who produced:

Ethnic Spinach e.g., Callaloo and La Lu
Sorrel
Hot Peppers
Tomato
Snap Bean
Okra
Other Ethnic produce
Figures 5-8. Field showing flooding and wind damage due to Hurricanes Rita and Whilma
Let us now look at these some of these hurricanes, flooding and drought instances on small farmers.

1. **2004**
   - Aliene in North Florida (Panhandle and West Florida)
   - Charley in Southwest Naples and Ft. Meyers

2. **2005**
   - Rita
   - Katrina FL - Broward and Dade, South Mississippi – to Jackson
   - Whilma

3. **The Delta Region experience flood rains and drought 2006 – 2008**
   - Eastern Arkansas
   - North Mississippi Delta
Figures 9-12 showing Hurricane damage to peppers on South Florida
Equally the Delta Region experience flood rains and drought 2006 – 2008

Flood rains in:

• Eastern Arkansas
• North Mississippi Delta
Figures 13-16 showing weather related damage to tomatoes and peppers
Figures 17-20 Field showing drought and freeze effects

Figure 17- Drought

Figure 18- Freeze

Figure 19- Freeze

Figure 20- Drought
What are some of the steps taken to manage risk given those experiences?

Enterprise diversification e.g.,
Growing crops that can experience lower temperature e.g. Asian Vegetables (Pak Cho)

Implementing irrigation systems on land with assistance of the NRCS program

Minimize the number of enterprises grown. Most successful farmers reduce the number of enterprises from six (6) – eight (8) to two (2) and three (3) with better results.

Increase in the number of small farmers with greater sign ups and registrations in the NAP Program.
Partnerships to secure Climate Information from sources that have conducted sound research and can predict with better probabilities the occurrence of the various events.

Universities and CBOs/NGOs serving these groups should be involved in these partnerships. Also, promoting the importance of this as a valuable tool in planning, operating small farms, and greater community awareness.

These agencies should also conduct on farm training in the use of the various models developed, and demonstration of how when used the benefits to small farmers.

Climate information can be incorporated in the Risk Management plan on these small farms.
Q&A

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