

Climate Change Adaptation in the Caribbean – Enhancing Water Resources Management

Policy Recommendations THE WHAT

CARDI-CTA Water Management Workshop
9-11 October 2011 - Dominica

WHAT

Are there practical **on-farm** measures to encourage IWRM in the face of climate variability

**Water alone is not sufficient,
it is water combined with all
the other technological
advances...**

CAMI Initiative

- Weather forecasts for farmers
 - Daily, weekly, dekadal;
 - Micro-climates
 - 2 week dry spells etc...
- Communication
 - Train meteorology staff
 - Train farmers on **how to use** the information
 - Bulk text messaging pay service
 - Mobile application

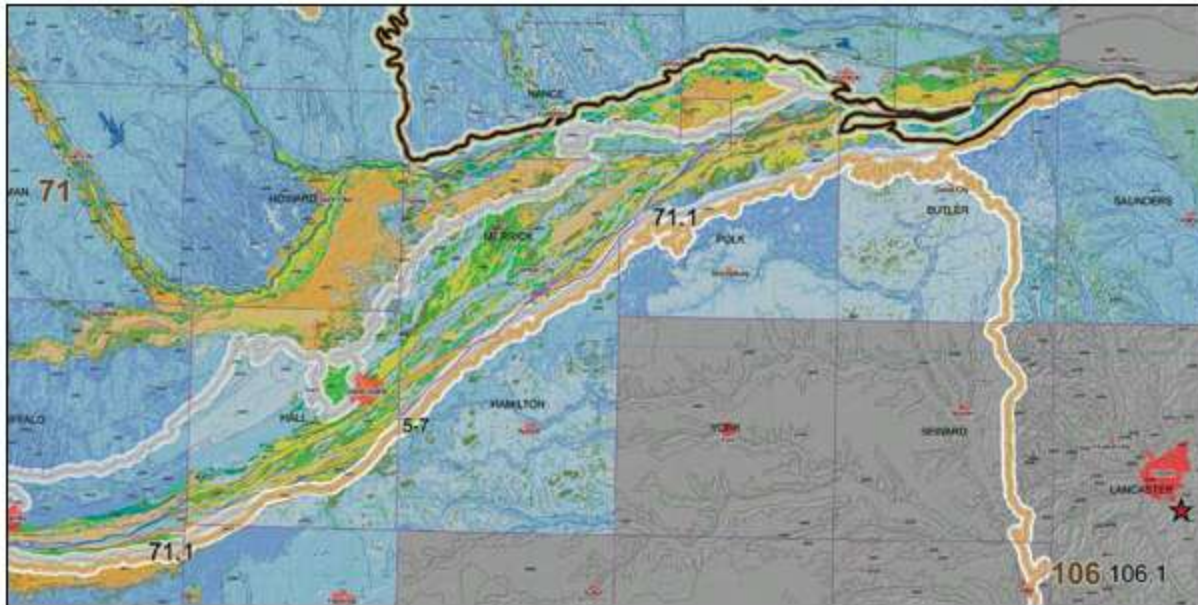
Soil Water Monitoring

- Geographic Information System

Soil Root Zone Available Water Capacity: Central Nebraska Loess Hills

[Agriculture](#)

Natural Resources Conservation Service, U.S. Department of Agriculture



Land Slippage

- Land mgmt / hillside mgmt for soil conservation
 - Earth barriers (banks that break water velocity)
 - Economic crops (fruit trees etc)
 - Contour planting
 - Individual basin for tree cropping
 - Strategic clearing of crops
 - Terracing
 - Caution: Maintenance KEY, Properly implemented

Land Slippage

- WHO?
 - Farmers
 - Installation, maintenance
 - Extension Officers
 - training
 - Government (Conservation Authority)
 - Installation, maintenance
 - Demonstration / research plots
 - Agricultural Policies (crop selection, land practices)

Land Slippage: Example

- Barbados, Scotland District
 - Terracing & subsurface drainage removes water & store in pond for irrigation
- St. Lucia
 - Farmers trained on how to install and maintain terraces

Drought

- Mulching (plastic & organic)
- Irrigation scheduling
- Using drip irrigation
- Drought tolerant crops
- GIS, early warning
- Cover crops
 - Tropical kudzu, water grasses, toca grass etc
 - Root crops
- Intercropping & ali-cropping (guinea grass)

Flooding

- Plastic mulch
 - Equipment
- Tile drainage (farm district level?)
- Trenches and canals (e.g. Trinidad)
- Ponds
 - Proper installation to reduce
- Row covers to lessen wind and heavy rain
- Water tolerance crops
 - Dasheen, rice
- Fertilizer management
 - Slow release fertilizers, fertigation
- GIS

Pest & Diseases

- Integrated pest management
- Early warning system (CAMI)
 - Similar to SEC in USA
- Row covers
- Plastic mulch

Irrigation Support Systems

- Private Sector Professional
 - Farmers as sole knowledge worker, problem
 - Offer technical support to farmers
- Water Users Association (WUA)
 - District of farmers practicing a particular irrigation method
 - Registered association with laws governing it

Irrigation Support Systems

- Set up of Irrigation Authority
 - E.g. National Irrigation Commission in Jamaica
 - Data collection, monitoring and responding
 - Ground water monitor to prevent salinity
 - Irrigation Master Plan (e.g. Jamaica)

Other Agricultural Uses

- Postharvest handling
- Livestock feeding
- Waste water recycling