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
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