



Climate Change Adaptation in Caribbean Agriculture: Enhancing Water Resources Management

Presentation to the Alliance of
Ministers of Agriculture
CWA, Dominica 2011

Importance of Agriculture in Region

- Agriculture plays a significant role in the socio-economic development of SIS
- For some countries agriculture contributes >20% of the GDP and seen as a major economic driver
- Climate variability and change will impact water availability – productivity of agricultural systems
- Climate change impacts water availability via changes in temperature, rainfall, intensity of storms and sea levels

Climate Change and Water Availability

- ◉ Less water available water due primarily to:
 - > Increased variability in rainfall patterns
 - > the long term drying (drought)
- ◉ Drought may become more frequent and be more severe.

Climate Change and Water Availability

- Agriculture in the Caribbean is predominantly rain fed
- Strong sensitivity to **variations** in rainfall
- Agriculture vulnerable

“Rainfall is king”

(Taylor 2011)

COUNTRY	DATE	IMPACT
Guyana	2009/2010	Up to 35% of rice fields left uncultivated. USD1.3 million spent to operate irrigation pumps (US\$16,000/day). About 150 acres irrigated with salt water in desperation. In 2010 alone over 100,000 acres experienced water stress prompting government investment of over USD 30 million
Trinidad	Jan-May 1987	Over 10,000 acres of natural forest burned resulting in severe crop losses at mean of USD500,000/year
Dominica	2010	Banana export fell 43% below normal due to drought Dominica spent USD18 million in damage response after rain from Hurricane Ophelia
St. Vincent & Grenadines	2010 2002	Crop production reduced to 20% of normal Widespread damage hurricane Lili USD40M
Antigua and Barbuda	2010	Loss of 25% of onion crop, 30% of tomato crop estimated at 250,000 kg
Jamaica	1996 and 1998 1999-2000	Severe loss of sugar crop, caused government USD100 million in compensation Rainfall fell to 255 of mean resulting in crop losses of over US\$6million.

Climate Change and Water Availability

- Based on the heavy reliance on rainfall, we are very **Vulnerable** to vagaries of climate
- Not responding to this vulnerability is **not** an option.
- **Serious implications for Food and Nutrition Security, economic development and the livelihoods**

CONCLUSIONS

POLICY INFLUENCING ISSUES

**for the efficient management
and use of water in agriculture**

CONCLUSIONS

POLICY INFLUENCING ISSUES

- Access to water - essential for sustainable economic development and achieving MDG (poverty and hunger)
- Current fragmented approach to water allocation - focused response required.
- An Integrated Water Resource Management approach – critical for sustainability.

CONCLUSIONS

POLICY INFLUENCING ISSUES

- Data pertaining to the water sector is essential for the allocation of water to agriculture.
- Science-based information required for the development of policies.
- Current efficient technologies and practices for the collection, storage and use of water in farming operations must be encouraged.

CONCLUSIONS

POLICY INFLUENCING ISSUES

- New and innovative technologies to improve water use efficiency must be pursued.
- Capacity building of technical personnel is imperative (agriculture, climate change)

RECOMMENDATIONS

- ◉ Develop/strengthen **policies** from which programmes and projects are developed and implemented

Essential elements :

- > Water allocation for agriculture
 - > Data collection and management
 - > Research and Development (scientific and socio-economic)
 - > Capacity Building
 - > Information systems, communication and outreach
- ◉ Scale up the implementation of current successful sustainable water management programmes and projects.

Our **vulnerability** due to the **variability** of rainfall can affect our **viability** if our water management systems are not enhanced and therefore **demand**s immediate action