U.S. National Drought Policy

Management Strategies for Sustainable Agriculture

Ray Motha
U.S. Department of Agriculture
National Drought Policy Commission

• Recommending a paradigm shift in policy from “Relief” to “Readiness”.

National Drought Policy Commission (NDPC)

• NDPC Findings:
  • *Need better preparedness
  • *Need better coordination
  • *Need adequate climate information
  • *Need to improved crop insurance
  • *Need to streamlined emergency procedures
  • *Need additional scientific research
  • *Need a coordinated National Drought Policy
National Drought Policy Commission Facts

• Planning and Mitigation: Overall
  – Thirty states have individual drought plans
  – Few river basin and watershed plans include a drought component.
  – Small percentage of towns and counties have drought preparedness plans
  – Small percentage of individual agriculture producers have drought contingency plans
Case Studies of Successful Drought Plans:

• *Advanced planning
• *Proactive mitigation
• *Innovative technology
• *Cooperative and collaborative efforts among federal and non-federal entities
NEW PARADIGM:

- Change the STATUS QUO of spending billions of dollars in response to drought without reducing the risk situation of the recipients to:
  - Reducing long term costs;
  - Reducing risks; and,
  - Maintaining a safety net.
POLICY STATEMENT

Priorities:

• Preparedness over insurance;
• Insurance over relief; and,
• Incentives over regulation.
Federal/non-federal partnership to ensure that:

• Drought programs are better coordinated;
• Programs are better integrated; and,
• Their services are more efficient, effective, and driven by customer needs.
GOAL 1:
The key elements of an effective national drought policy include:

- planning and the implementation of plans;
- proactive mitigation measures;
- risk management;
- resource stewardship and environmental considerations; and,
- public education.
GOAL 2: Collaboration among scientists and managers needs to be improved in order to:

- increase the capability of observation networks;
- enhance the effectiveness of monitoring, prediction, information delivery, and applied research systems; and,
- to foster public understanding of and preparedness for drought.
U.S. Drought Monitor

• Four agencies involved in its weekly preparation: USDA/WAOB, NOAA/NWS, NOAA/NCDC, and NDMC (University of Nebraska).
U.S. Drought Monitor

• An operational product developed, tested and operationally implemented during the term of the National Drought Policy Commission.
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

http://drought.unl.edu/dm

To compare current drought conditions with last week’s map, click here.
To view tabular statistics of this week’s Drought Monitor, click here.
To view tabular statistics for the Drought Monitor archive, click here.
To view Drought Monitor Change Maps, click here.
The National Integrated Drought Information System (NIDIS)

• An information system for drought early warning and adaptation
• Public Law 109-430 authorizing NIDIS signed by President in December 2006
• Led by NOAA, a multi-agency partnership of Federal, State, and Local cooperators
• A clearinghouse for drought mitigation and response innovations
• Coordination of drought plans among states, communities of a common river basin
• Strengthening monitoring networks
Elements

1. U.S. Drought Portal:
   - Development and tailoring

2. Climate Test Beds:
   - Integrating data and forecasts

3. Coping with Drought
   - Integrated Research and applications
   - Engaging preparedness communities
   - Education and awareness

4. NIDIS Pilots:
   - Early Warning System Design and Implementation

5. NIDIS Program Office
Natural Disasters

GeorgiaDrought.org

Current Drought Conditions
Spring & Summer 2008 Outlooks
March 4, 2008 - View this PowerPoint presentation by David Emory Stooksbury, Ph.D., State Climatologist and Associate Professor, Engineering and Atmospheric Sciences, UGA.

- [Current Drought Conditions Spring & Summer 2008 Outlooks](#) (pps)
GOAL 3:

• Drought preparedness plans need to develop and incorporate comprehensive insurance and financial strategies into their overall long-term plans.
Crop insurance policy is one risk management option.

**Actual Production History (APH)** policies insure producers against yield losses due to natural causes such as drought, excessive moisture, hail, wind, frost, insects, and disease.

Risk Management Agency provides policies for more than 100 crops.

There are a wide variety of policy options available to farmers.
GOAL 4: 
• A safety net of emergency relief must be maintained that emphasizes sound stewardship of natural resources and self help.
Emergency Response

• Natural disaster is a constant threat to America's farmers and ranchers and rural residents. USDA provides assistance for losses that result from drought, flood, fire, freeze, tornadoes, pest infestation, and other calamities:
  --Food Assistance
  --Loan Assistance
  --Crop Disaster Programs
  --Rural Development Assistance Programs
  --Forestry and Livestock Assistance Programs
Goal 5:

• The combination of drought programs and emergency response measures need to be coordinated in an effective, efficient, and a customer-oriented manner.
• *Preparedness is the key to a proactive drought policy.*
Long-Term Strategy

• **Preparedness** to improve the effectiveness of response and recovery, such as establishing early-warning systems.

• **Mitigation measures** to reduce the impact of extreme events or natural disasters prior to their occurrence.

• **Adaptation strategies** to prepare for and cope with the potential impacts of extreme events or natural disasters.
Agroclimatic Risk Management Plan

• **Vulnerability Analyses**
  
  • Vulnerability---extent to which extreme events or natural disasters may damage or harm a system.
  
  • This depends not only on a system’s sensitivity but also on its ability to adapt to new conditions.
Agroclimatic Risk Management Plan

- Vulnerability Analyses
- Impact Assessments

Weather and climate extremes affect underlying risk factors and the ability to cope with and recover from extreme events.

- For example, production shifts into more marginal areas will be more seriously impacted by droughts/floods etc.
- Impact of prolonged drought/heat waves on crop phenology and crop varieties has significant consequences on food security
Agroclimatic Risk Management Plan

- Vulnerability Analyses
- Impact Assessments

**Mitigation Planning**

Mitigation measures to prevent or reduce the impact of a catastrophic event prior to its occurrence.
Agroclimatic Risk Management Plan

• Vulnerability Analyses
• Impact Assessments
• Mitigation Planning

• Adaptation Strategies
Adaptation Strategies

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2. Adaptation to short-term climate variability and extreme events are explicitly included as a step toward reducing vulnerability to longer-term climate change.

3. Adaptation occurs at all levels, ranging from local to national and international levels.
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2. Adaptation to short-term climate variability and extreme events are explicitly included as a step toward reducing vulnerability to longer-term climate change.

3. Adaptation occurs at all levels, ranging from local to national and international levels.

4. Equal importance is placed on both the adaptation strategy and the process needed for its implementation.
Adaptation Strategies
For Vulnerable Groups

• Need to identify adaptation strategies that favor the most vulnerable groups.
  - for e.g., strategies such as large-scale agriculture and irrigation may benefit national interests and large operations, but may actually harm local, poor indigenous populations.

• The ability to adapt is based on a “bottoms-up” approach, identifying local needs and future risks.
Adaptation Strategies

• No one adaptation strategy fits all needs
• Need to work with stakeholders to identify the most effective adaptation strategies to enable them to better cope with local risks.
• Emphasis should be on finding measures that increase ability to cope with extreme events and natural disasters, but still make sense under existing conditions.
Agricultural Adaptation Strategies

Some adaptation strategies include:

• genetic improvements to drought-tolerant crops;
• translocation of crops and changes in cropping patterns;
• afforestation to condition the soil;
• improved water infiltration (if available);
• improve shade through shelterbelts;
• increase water use efficiency;
• diversification into non-farm activities to avoid overuse;
• crop insurance; and,
• improve management of or access to markets and finance (e.g., microcredit)
Agricultural Adaptation Strategies
Types of Options

• **Infrastructure**: development of food storage facilities; build dam; improved design of levees.

• **Capacity building**: develop early-warning system; build knowledge and capacity to understand agricultural production stressors; drought/risk management; climate network monitoring; strengthen commodity estimates system and find new markets.
Agricultural Adaptation Strategies
Types of Options

• **Policy**: Limit deforestation; water conservation and demand management; develop resource management plans at community level; facilitate access to credit.

• **New practices**: Incorporation of crop residue into soil tillage; use of short-rotation and heat-tolerant crops; intercropping and crop rotation (to address pest); shift livestock rearing etc.
Contribution of Research & Development Communities

- The development of new technologies to cope with extreme weather and climate events, in particular related to early warning systems.

- The development of sophisticated models for regional studies to adapt to possible changes i.e. further research on potential impacts of extreme climate variability and natural disasters on agriculture.
Contribution of Research & Development Communities

- The collection and dissemination of technology transfer projects, indigenous knowledge and farmer training programs to identify and scale up good management practices.

- Addressing and planning specific research and development projects through partnerships between farmers, extension personnel and scientists.
What is lacking for farmers?

- Lack of incentives from governments for farmers to keep abreast of climate friendly farming technologies; and, lack of capital to put necessary adaptations into place.

- Lack of risk management tools related to weather damage, in particular in developing countries. Traditional insurance markets and informal insurance arrangements between farmers and community members in developing countries are inadequate in preparing for weather and climate extremes.
What is lacking for farmers?

• The establishment of crop insurance funds by national governments to help farmers recover from losses and stabilize their incomes in situations of increasing “climate vulnerability” may need to be promoted.

• There is a need to establish policy frameworks to address drought impacts and adaptation measures which are consistent with agricultural interests.
Thank You