

# Sociological Issues of Weather Modification

- Point of Discussion, Debate, or Dispute
- Matter of Wide Public Concern
- Issues can blossom into problems.
- For example, arguments, controversy, or fears.



Picture of presenters at the Conference on Prediction and Countermeasures of Climate Change on 29 October 2019 in Seoul, South Korea

# The Public:

## Not one Group with Common Interests

- Many groups of people with varying concerns (self, others), ideologies (progressive, conservative), needs and perceptions.
- Can be misinformed, driven by emotions, and fears.
- Certain groups, or people, can be very influential.



David Delene talking about weather modification at International Conference.

# Fears of Weather Modification Projects

- Economic Dis-benefit
- Life Threatening Developments
- Others Will Benefit and I Won't
- Loss of Civil Liberties
- Irreversible Environmental Impacts
- Divine Retribution



Image illustrating a person in fear.

# Basis of Fears

- Most fears from misconceptions.
  - How the atmosphere works.
  - Toxicity of Silver Iodine.
  - Extent of possible effects.
- Uncertainty
  - How well does it work?
  - What might be done with the technology?
- Still a lot based on the early (1950s) optimism of the potential to modify the atmosphere.



Experience of Cloud Seeding in Mali, West Africa

# Social Concerns Encountered

- Mistrust of the government.
- Who owns the Atmosphere?
- Should weather modification be a viable weapon?
- Who is liable for negative outcomes and damages?
- Should there be stringent regulation?
- Need for rigid proof verse preponderance of evidence.
- What is the role of project evaluation?
  - Transparency and information are critical!

# Public Opinion

- Public is confused about weather modification – why?
  - Simultaneous research and operations.
    - Needs for weather modification aren't uniform.
    - Need for evaluation is critical.
- Public Views
  - About one-third of people oppose for religious or natural beliefs.
  - Most people do not show much enthusiasm or interest.
  - Public perception, or individual perception, rules.

# Evaluation of Weather Modification

- Small changes are not obvious.
- Payers need to know if getting money's worth.
- Who does the evaluation is important.
- Evaluation is key to maintaining programs.
- There are winners and losers on all projects!



# Factors for Deciding on a Program

- Safeguards
- Emergency Conditions
- Scientific Evidence
- Local Economic Benefit
- Cost-effectiveness
- Program Compensation
- Public Communication



Picture of presenters at the 2019 International Conference for Fine Dust in Seoul, South Korea.