Management and Technological Alternatives to Promote Productivity in the Mexican Agricultural Sector

Dra. María del Pilar Longar Blanco
Instituto Politécnico Nacional,
México
Environmental challenges

• Climate change resulting from human activities
  – Carbon dioxide (CO2)
  – Greenhouse gases (GHG)

• Reduce GHG emissions through
  – National policies
  – Usage of alternative energy
  – Identify, quantify, monitor and verify GHG emissions
Main objective

• Adopting measures to reduce natural resource usage minimizing impact, and to evaluate the environmental, social and economic implications of our actions
Environmental issues

The environmental issues that the Mexican agricultural sector has to deal with are:

• Sustainability and climate change;
• Surface soil and groundwater quality;
• *Transgenic* seeds;
• Resource use (water, energy, materials and waste management).
Main concerns

• Ancestral conditions of production
• Resources misuse
• Lack of awareness about improved seeds
• Lack of infrastructure
• Lack of adequate irrigation systems
• Poor physical capital
• Migration
Agricultural Sector Goals

• To produce food of high nutritional value and low cost for both human and animal consumption.
• Using techniques for intensification and diversification of production systems through the introduction of new technologies and experimental plots and plug greenhouses.
• To improve production techniques incorporating traditional practices and modern widely tested techniques.
• To use renewable energy and waste recycling as the foundation of the production process.
Greenhouse vs. Open field
Permanent production vs. Season production
Controlled environment vs. Climate change
Non-toxic fertilizers vs. Industrial fertilizers
Genetically improved vs. Genetically modified
Waste reuse vs. Waste disposal
Renewable energy vs. Fossil fuels
Communal production vs. Individual production