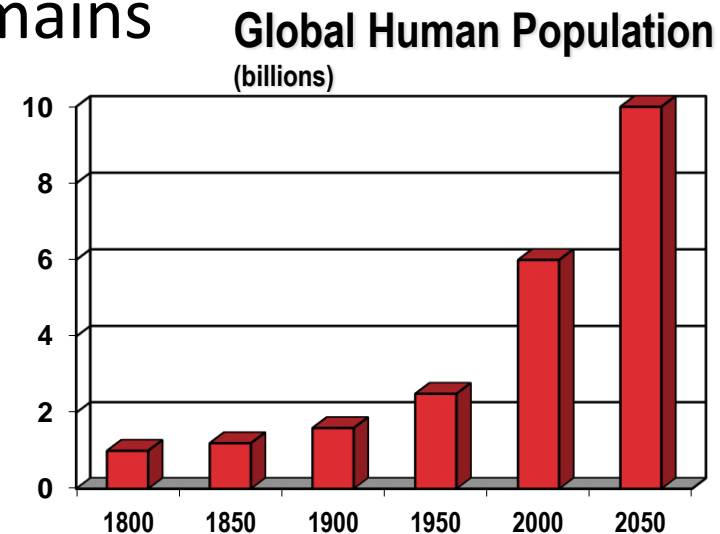


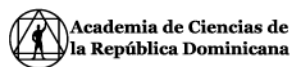
# Food and Nutrition Security: The Americas

# The Global Challenge

- Global population is projected to increase by about 30% between now and 2050
- Global food demand is projected to increase by as much as 70% between now and 2050
- Environmental degradation remains a major threat.
  - Deforestation
  - Loss of soils
  - Water
  - Climate change



# Inter-American Network of Academies of Sciences (IANAS)





- 22 Country assessments
- Regional assessment for the Caribbean
- 230 authors
- PDF free at IANAS.org
- Stand alone Summary document that collects key messages





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# Production Dimension

- Three Key elements
  - Technology
    - 150 year history of technological advance from irrigation to the steel plow to biotech to precision agriculture to sensors.
    - But rate of agricultural yield growth is slowing, in part owing to declining research investment.
  - Environmental
    - Arable land is limited and there are trade offs between agriculture and uses that have a higher economic value.
    - Climate change – Ag is a major GHG producer and is also strongly affected by climate.
    - Growing pressure on water resources constitute a major challenge and must be met with improved management.
  - Governance
    - Research and education
    - Safety and regulation
    - Agricultural policies ranging from subsidies and price supports, to soil conservation policies to weather forecasting to trade policies



# Conclusions

- Science and technology have played a key role in feeding a rapidly growing human population.
- The food-water-climate system is a strongly interacting system with multiple feed back loops
  - Link between deforestation and agriculture
  - Link between water management, irrigation and food yields per unit arable land
  - Expansion of pests and diseases with climate change
- Time lags are important and may serve to destabilize the system
- Role of policy and international cooperation is crucial