1

The Nobel Peace Prize 2004 -
awarded to Wangari Maathai for her contribution to sustainable development, democracy and peace.

- “Maathai combines science, social commitment and active politics. More than simply protecting the existing environment, her strategy is to secure and strengthen the very basis for ecologically sustainable development. She founded the Green Belt Movement where, for nearly thirty years, she has mobilized poor women to plant 30 million trees. Her methods have been adopted by other countries as well. We are all witness to how deforestation and forest loss have led to desertification in Africa and threatened many other regions of the world - in Europe too. Protecting forests against desertification is a vital factor in the struggle to strengthen the living environment of our common Earth.”

2

Lessons Learned

- Objectives of this Unit:
  - Learn to diagnose modeling problems
  - Understand how studies using this modeling technique can have errors
  - Understand that this type of modeling requires unique skills

3

HMMM… This seems funny

- New Natl Park
  - Increased tourism
  - No economic impact
- Northwest
  - Thousands of jobs lost – a real impact
  - Some communities - little evidence in reality
  - Some communities – enormous impact
  - Dynamic vs static model
  - Continuous vs lumpy

4

HMMM… This seems funny

- Northeast
  - Recreation increased significantly between 1991 and 1997
  - Smaller economic impact
- West
  - Recreation spending on hotels large
  - Impact on hotel sector small

5

HMMM… This seems funny

- Economic analysis done on the econ benefit of Forest Products industry in the south east quadrant of a state.
  - Multipliers close to 1
- Large amount of harvesting in a county
  - Logging camps and contractors don't exist in the model

6

HMMM… This seems funny

- National assessment
  - Recreation impacts huge in comparison with commodity production, i.e. timber
- Regional assessments
  - Economic benefit of motorized boating huge
  - All regional production of stumpage exported

7

HMMM… This seems funny

- Contribution of dispersed, motorized winter recreation to local economy
  - Large in a university study
  - Much smaller when I tried to reproduce their results

8

HMMM… This seems funny

- Dueling Multipliers (e.g. employment)
  - 3.5
  - 1.2
  - 144.6
  - ….. And they're ALL correct!

9

HMMM… This seems funny

- Dueling Multipliers
  - 3.5 SAM multiplier
  - 1.2 Direct multiplier
  - 144.6 Response coefficient
  - ….. And they're ALL correct!

10

Criticisms of IMPLAN

- Linear
  - No upper bounds
  - No lower bounds
  - No change in technology or productivity
- Data
  - Lag doesn't reflect structural changes: Forest products for ie
    - Sawmill closings
    - New pulp and paper mills
    - Technology change
      - Productivity per employee
      - Diameter utilization

11

Criticisms of IMPLAN

- Data (continued)
  - Incorrect
    - Employment
    - Structure
    - Trade
  - Probability and risk
    - Confidence intervals
    - Sensitivity analysis
  - RPCs
    - State level
    - Coefficients estimated with old data

12

Criticisms of IMPLAN

- Data (continued)
  - Disclosure
    - Production, employment, and income estimated
  - Not a “green” accounting system
    - “Bad” goods and services contribute to economic growth
    - Monetized accounting system
  - Quality of user provided data
    - Garbage in, garbage out
    - Option, use response coefficients rather than try to calculate total impacts

13

Lessons

- Regional economic analysis **cannot** be a mechanical exercise
  - An understanding of the underlying theory and simplifying assumptions is a must
  - Neither trust, nor produce, naked multipliers

14

Lessons

- Conclusions:
  - Multipliers **must** have context
  - They are **rates of response**, not an absolute measure of relative importance
  - **Other data**, such as the study area data, **must be put in a social context as well**.

15