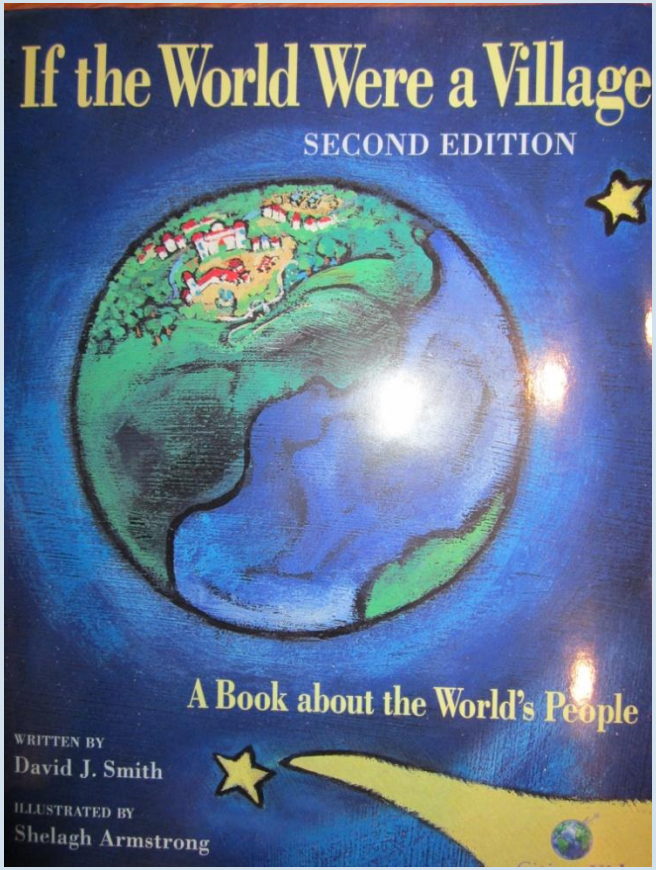
Linking Food Security and Agriculture Production to Conservation Practices

Policy Tool Box Presentation
January 24, 2012

Why Is This Important?



47 people in the village do not have food security

- As populations grow ag activity must intensify.
- Fertilizer will be at least a part of the solution.
- Countries and farmers must have tools to balance production efficiency with conservation
- The GPNM Tool Box will provide this connection.
- We want to support you to better implement plans to address LBS.
- We need your feedback.

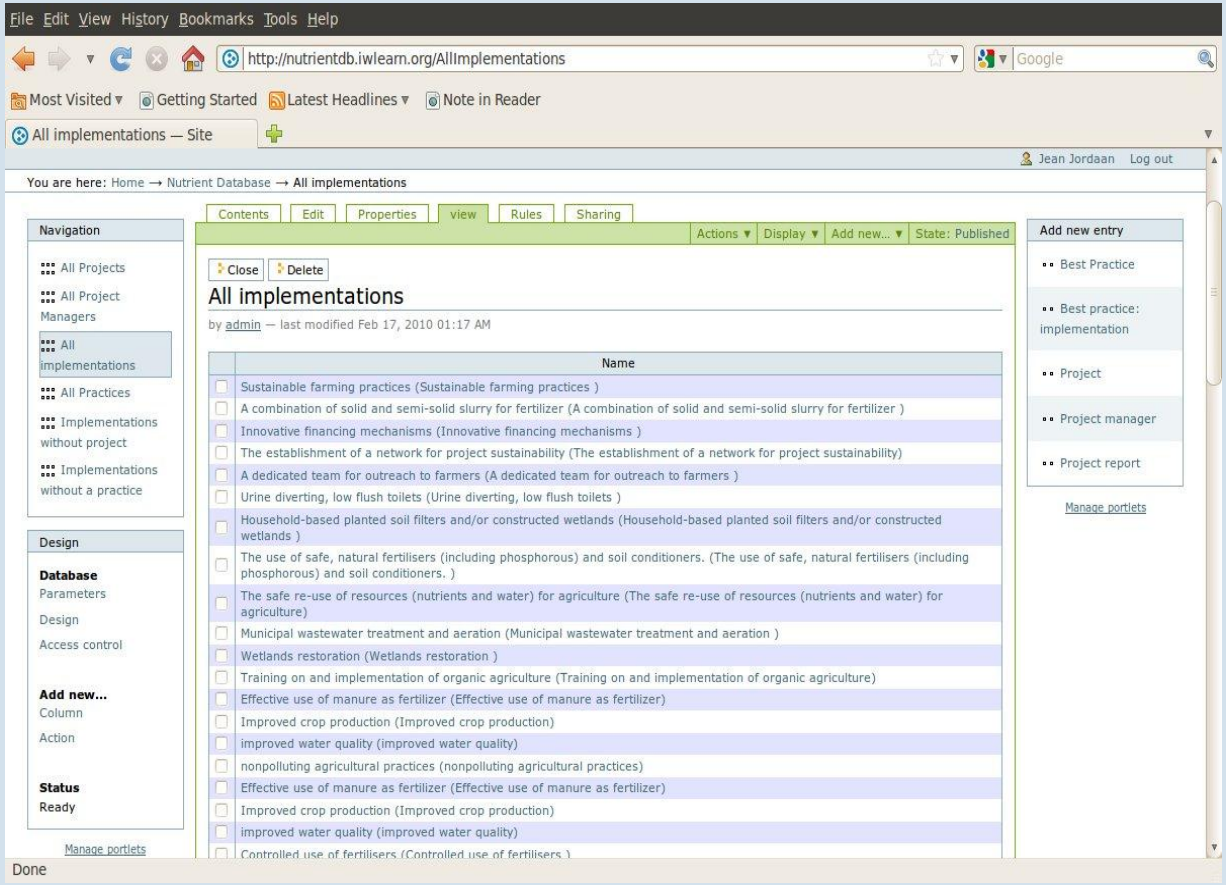
GEF BMP Investments Central & Eastern Europe

LIVINGWATER EXCHANGE

- Systems of practices
- Scale of production & practices
- Engaging farmers
- O&M
- Measuring outcomes/data is difficult
- Policies are an important driver
- Low cost interventions offer value

Paradigm shift is needed to consider tonnes reduced rather than counting practices

Global Inventory Summary



- Database:
  - 280 practices
  - 50 countries
  - 55 organizations
- Case Studies
- Pilots
- Training
  - eXtension

Other Tools

- Nitrogen foot printing and others – Dr. Jan Willem Erisman, Energy Research Centre of the Netherlands
- Ecosystem report card – Dr. Ramesh Ramachandran, Institute for Ocean Management, Anna University
- WRI interactive map – Dr. Robert Diaz, Virginia Marine Institute

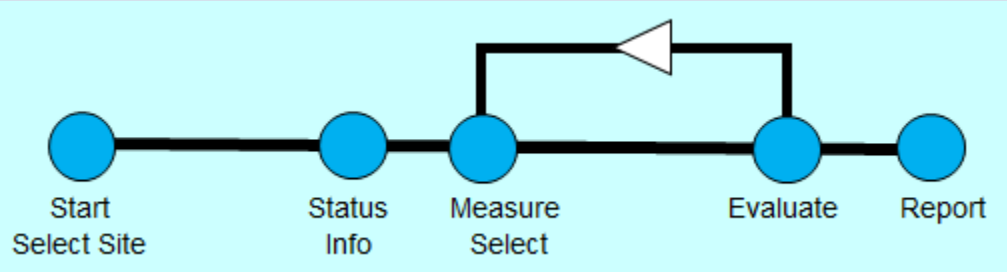
“Test Ready ”Policy Tool Box Review

- The development includes:
  - Leveraging current data and database models
  - Serving as a “decision support” tool and bring together various policy options from key source sectors
  - Providing an initial approach to integrate the policy tool box/inventory of best practices with the scientific models developed under Component B of the GEF project
- Presented structure is not final; comments are welcome
- Received feedback at the GEF IWC
  - Search by geography & watershed
  - Select systems of measures to get reductions
  - Include references/promote transparency
  - Do not duplicate but leverage current databases and models

Initial Design

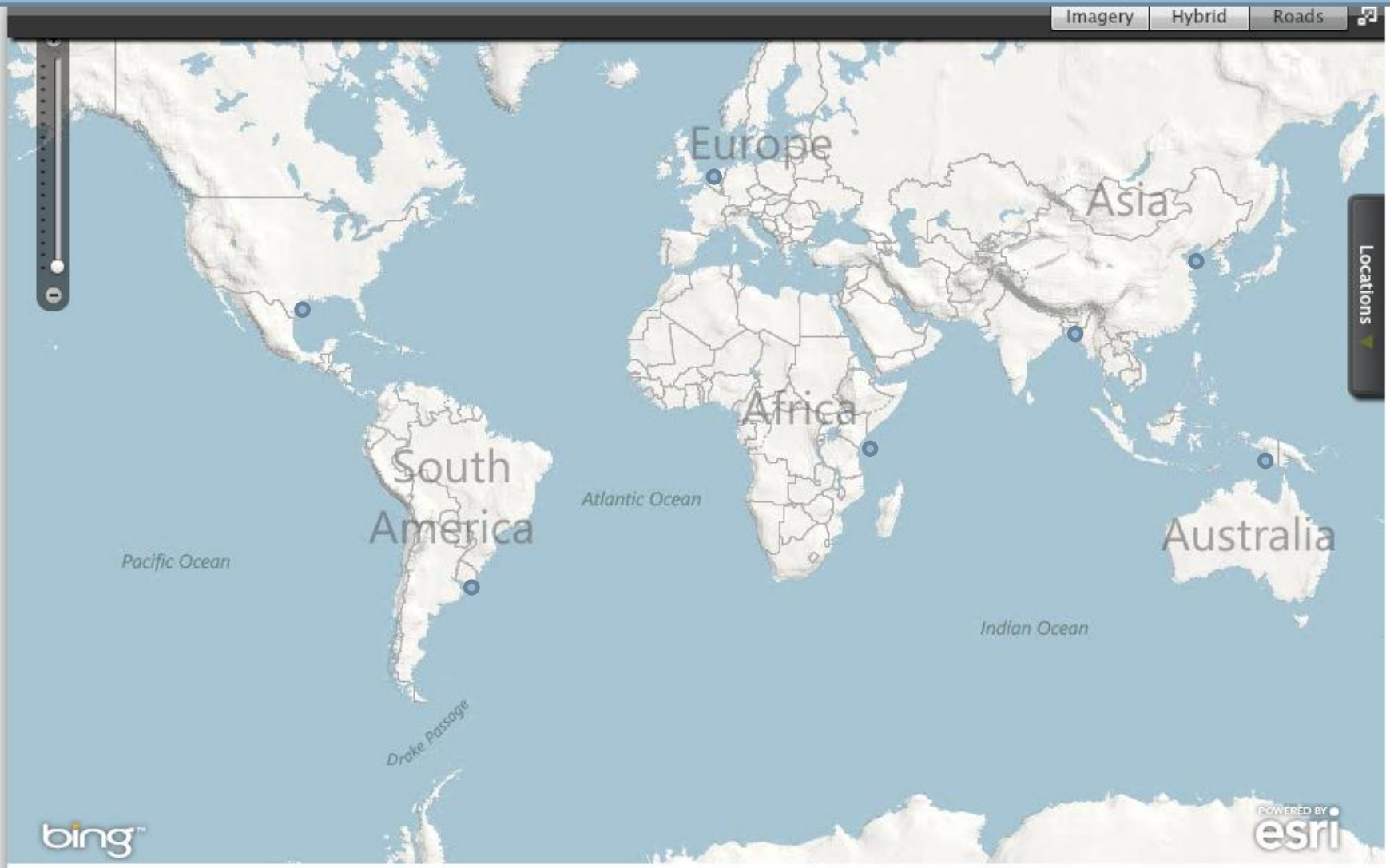
- In general, the Policy Toolbox should contain:
  - User interface and calculator for:
    1. Selecting sites and giving information
    2. Selecting policy measures
    3. Performing calculations
    4. Reporting results
  - A database with:
    1. Management options (i.e., agriculture, wastewater, etc) including their effects and side effects costs/benefits
    2. Information about major sources
    3. Post-source options to reduce nutrients
- Example policies and plans of action including their effects, costs, etc.

General Structure

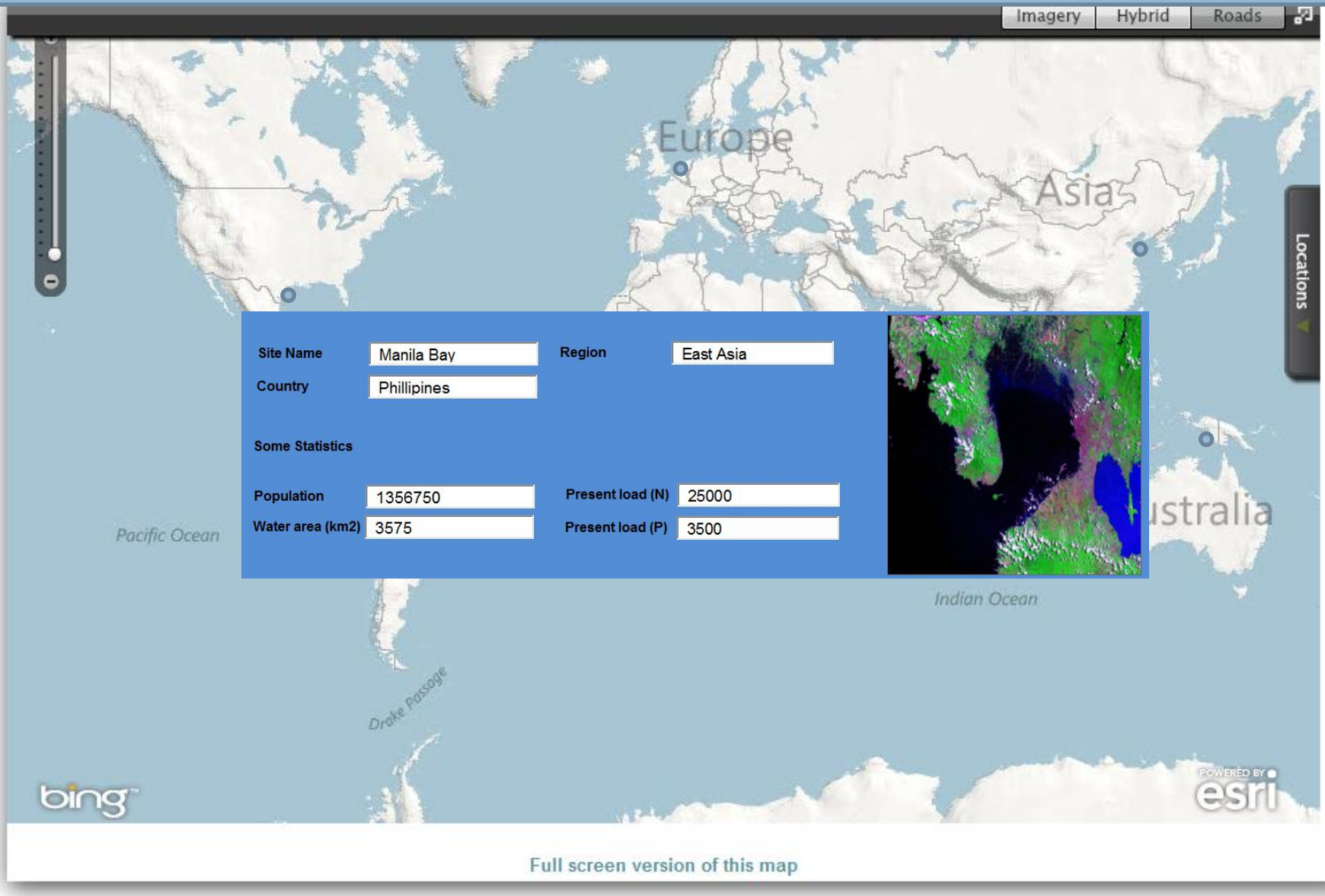


1. Select an area/ region/country/etc
2. Provide current loads status
3. Select options/measures (or let the 'system' do that, based on efficiency')
4. Provide their effect in terms of reducing the load, but also side effects (crop production, water requirements)
5. Evaluate costs (for implementing measures) & benefits (in terms of reduced load / side effects)
6. Report effects/costs

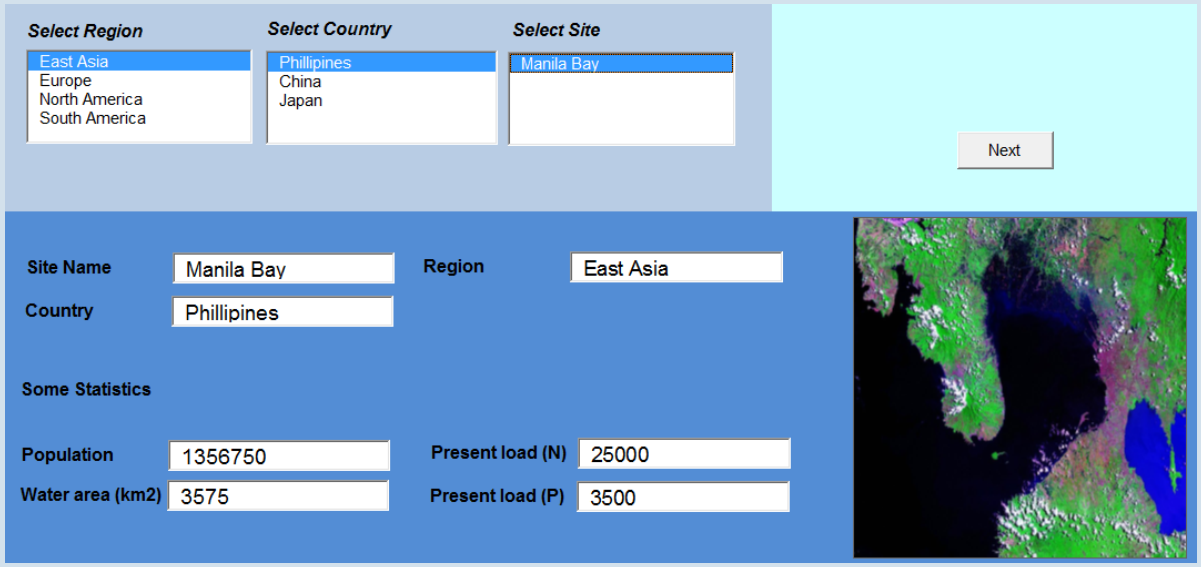
Selecting a Site

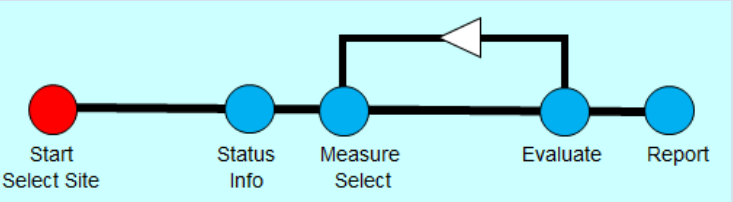


Selecting a Site



Selecting a Region or Site





- Remarks
  - Only shows available sites with general information
  - After selection, analyses continues using that site
  - Search' option can be included, searching for 'sites' based on different variables (e.g. emissions, watersheds, etc.)
  - More examples needed
  - More information required (see also 'measures')

Current Load

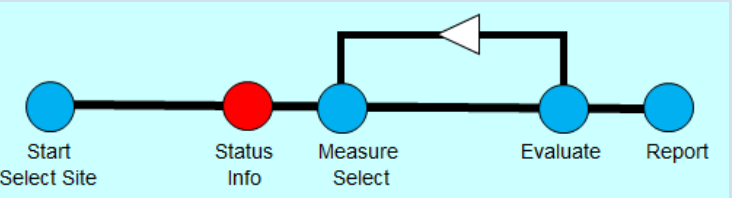
Site	Manila Bay

	Emissions (tonN/y)
NH3	427
NOx	248
N2O	95
NO3	1200
PO4	25

	Food prod ton/y
Rize	100
Wheat	80
Maize	25
Meat	30
Fish	45

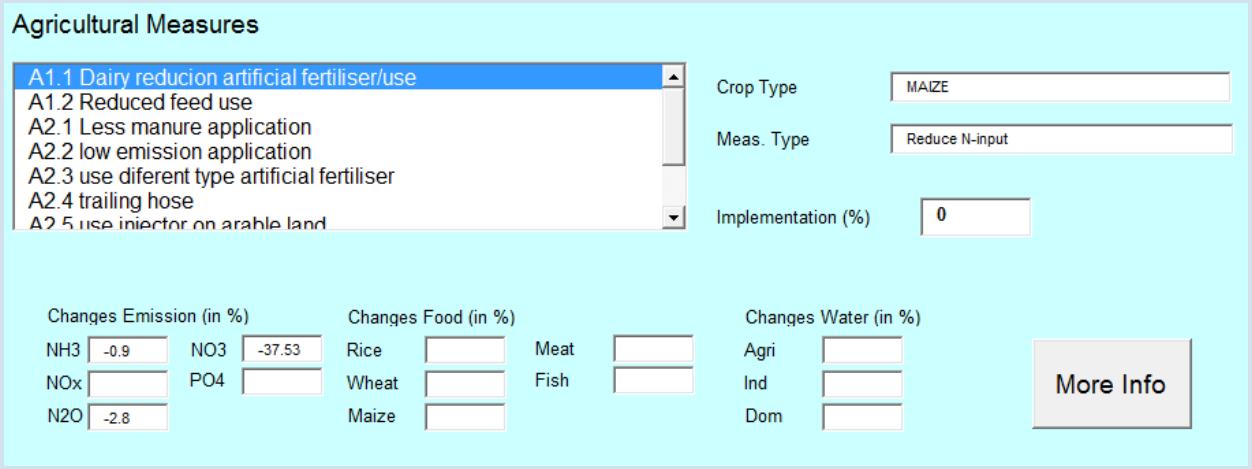
	Water req m3/y
Agri	60
Ind	35
Dom	25

Previous Next

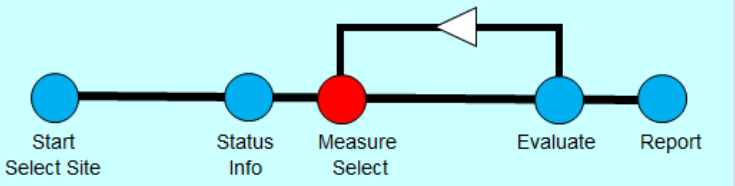


- Remarks
  - Shows current situation with respect to the emissions to air/water and food production capacity + water requirements for the different functions
  - What we need are clear definitions of what to include (e.g. extent of region influencing the area under consideration)

Select Measures

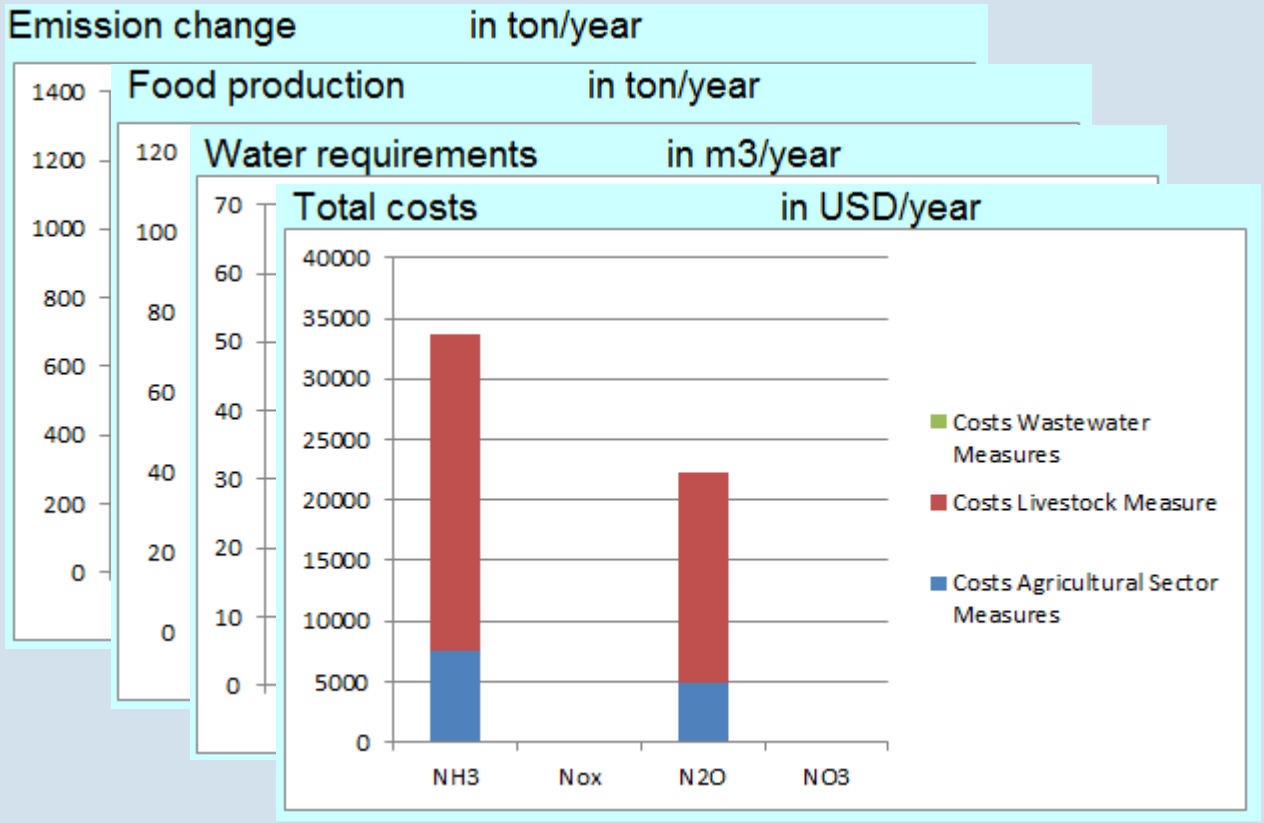


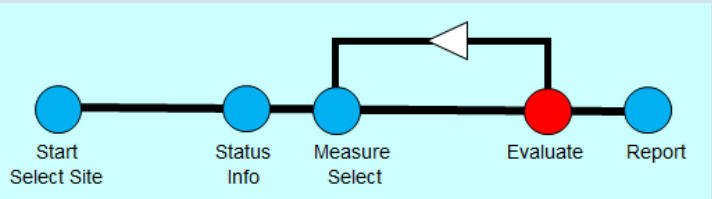
Click on overview to go to Excel



- Remarks
  - Shows available measures for reducing the environmental load.
  - Also shows changes in food production and water requirements
  - Including measures by changing % Implementation (0-100%)
  - Measures need to be defined that are specific for the sites (e.g. aquaculture)
  - Implementing multiple measures possible

Show Costs/Effects





- Remarks
  - Changes in Emission, Food Production, Water Requirements and Total Costs can be evaluated here
  - Via iterative process adjustments to measures can be made
  - In later stadium, selection of measures (and level of implementation) through optimization routine

Site Data Needs

- Information on:
  - Boundaries of the site
  - Land use around the site
  - Current activities (industry, population, traffic) around the site
  - Current emission levels of the activities (e.g. N/P to water, NH3/NOx to air)
  - Current concentration of N/P in water
  - Current food production and water need numbers for the area
  - Targets set for N/P concentration/loads

Conclusions/Initial Next Steps

- General concept is ready
  - Questions: Is this concept clear? Are there suggestions for change?
- First version of user interface available as Excel Spreadsheet (further work still needed)
  - Questions: Did you get a good impression of the general set-up? What issues did you miss? Are there suggestions for change?
- Database structure is developing
  - Questions: What data/information would you like to have included in the database? Can you assist in populating the database with measures/sites?

Commitments/Recommendations

- Develop and design training for farmers, extension agents and policymakers
- Build regional-level pilot initiatives and exchanges to promote of best practices and exchange of lessons learned in LME/coastal environments
- Develop institutional strengthening and use of participatory approaches in empowering governments/communities with foundational skills and knowledge to implement practices and reduce stress
- Undertake local, regional, national and transboundary policy research and innovation to develop cost-effective market, and institutional interventions to promote BEP agriculture on a large scale

We need your help & feedback.

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