

UNICEF Evaluation Office and EVALSDGs are pleased to announce the webinar

# Unintended Consequences and Trade-offs: Evaluating in the Nexus of Environment, Climate and Development

- Moderator: **Evan Green** (Baastel, Canadian Evaluation Society)
- Speakers: **Jyotsna Puri** (Green Climate Fund)  
**Juha Uitto** (Global Environment Facility)

Webinar hosted in partnership with



Wednesday, December 4, 2019

# I. TRADE-OFFS

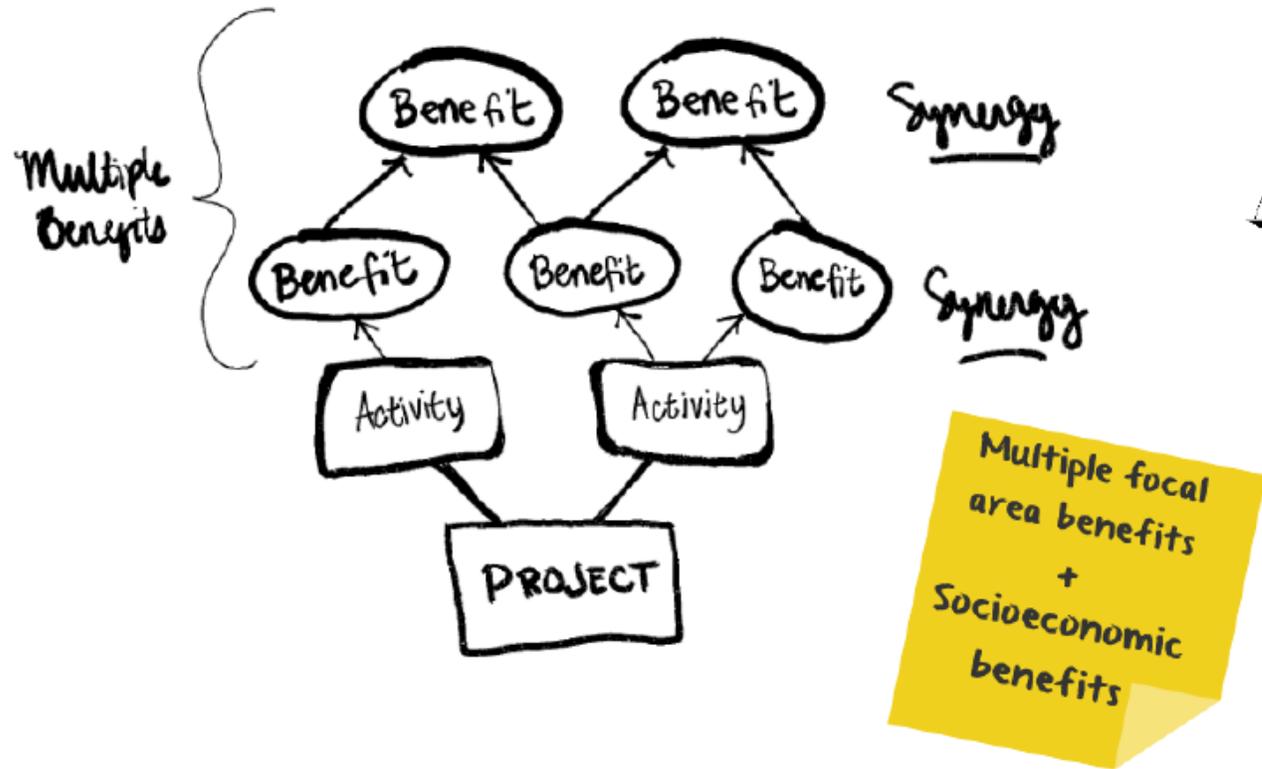
# The SDGs





**SOURCE:** <https://blog.kumu.io/a-toolkit-for-mapping-relationships-among-the-sustainable-development-goals-sdgs-a21b76d4ddao>

# Both synergies and trade-offs can occur within the same intervention



## TRADE-OFF

A reduction in one benefit in the process of maximizing or increasing another benefit

# Common types of trade-offs



🔍 Environmental vs Socioeconomic Objectives



🔍 Short term vs Long term



🔍 Across Focal Areas



🔍 Between Scales

# How trade-offs can be mitigated

## Compensation

direct payment or replacement of income to address the loss of socioeconomic benefits

## Compromise

when the benefit to one focal area is decreased to reduce the anticipated loss to another focal area or socioeconomic aspect

## Value Addition

when an intervention not only addresses the trade-off, but also creates benefits beyond the status quo



## TRADE-OFF

Short-term agricultural income vs Long-term ecosystem services

# COMPENSATION

In Brazil, the temporal trade-off in converting part of farms to private nature reserves is offset through tax benefits established by national law.

## TRADE-OFF

Biodiversity protection in forests vs Community access to resources

# COMPROMISE

In Senegal, the creation of Community Nature Reserves was a compromise between benefits to biodiversity and the local economy. These reserves increase community access to natural resources, but reduce the maximum benefits to biodiversity that could have been obtained through complete protection.

## TRADE-OFF

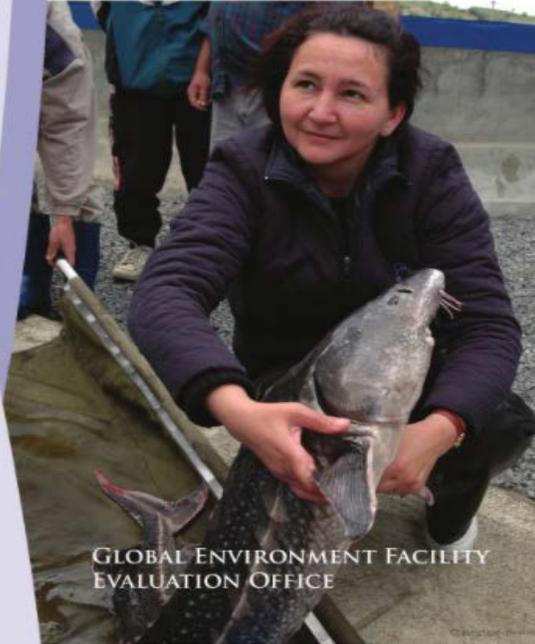
Grassland protection to reduce erosion vs Grassland as livestock fodder

## VALUE ADDITION

In China, to mitigate the loss of using indigenous grass as forage and bedding for sheep, the project provided warm sheep sheds and alfalfa as substitute fodder. This had the added value of providing permanent shelter for sheep, which improved their survival in harsh climates. Alfalfa as fodder was found to improve the quality of the sheep, which farmers could then sell for a higher price.

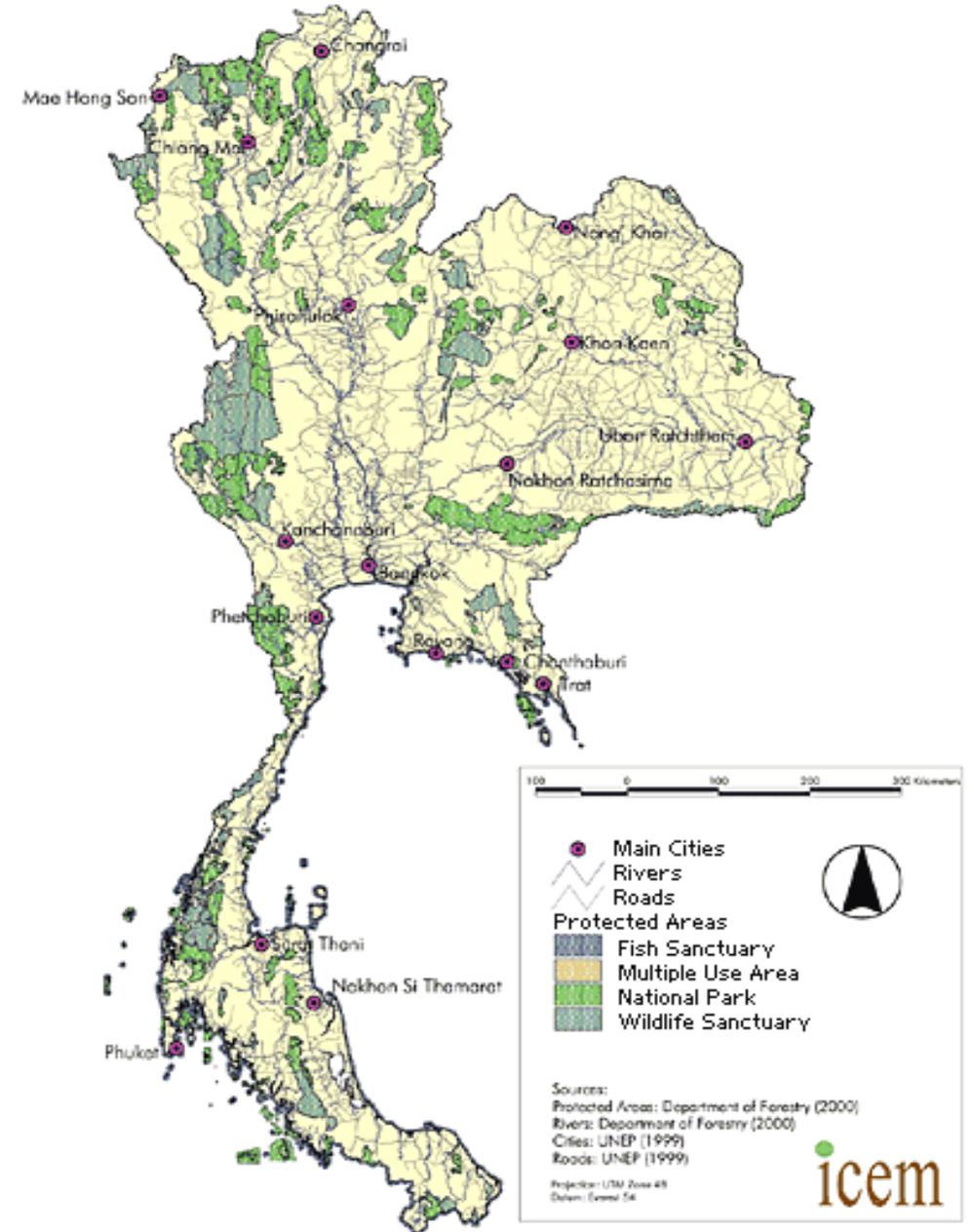
THE ROLE OF  
LOCAL BENEFITS IN  
GLOBAL ENVIRONMENTAL  
PROGRAMS

2006



# BENEFITS-COSTS

Does road construction always lead to deforestation?



# Main Result

- A 10% reduction in agricultural costs:
  - 4.5% red
  - Incre
- Over
  - In
  - rea

Important to  
measure sizes of  
change



Environmental &  
livelihood benefits  
are  
**SIMULTANEOUSLY**  
possible

## II. TOOLS

# TECHNOLOGY TOOLS THAT HELP EVALUATIONS

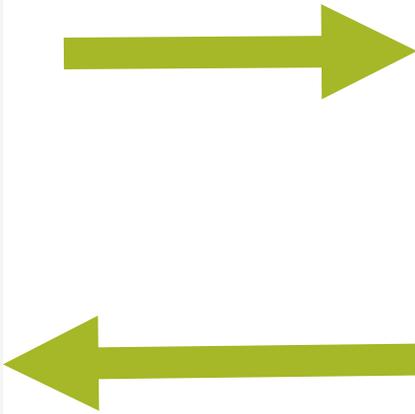
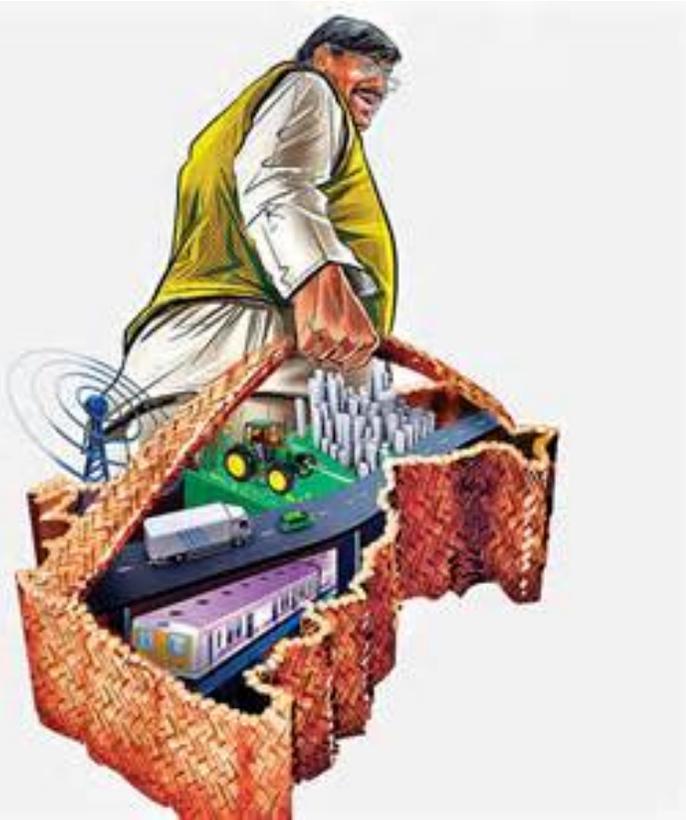
- DEAL WITH BIAS
- PROVIDE OBJECTIVE DATA
- REDUCE COSTS



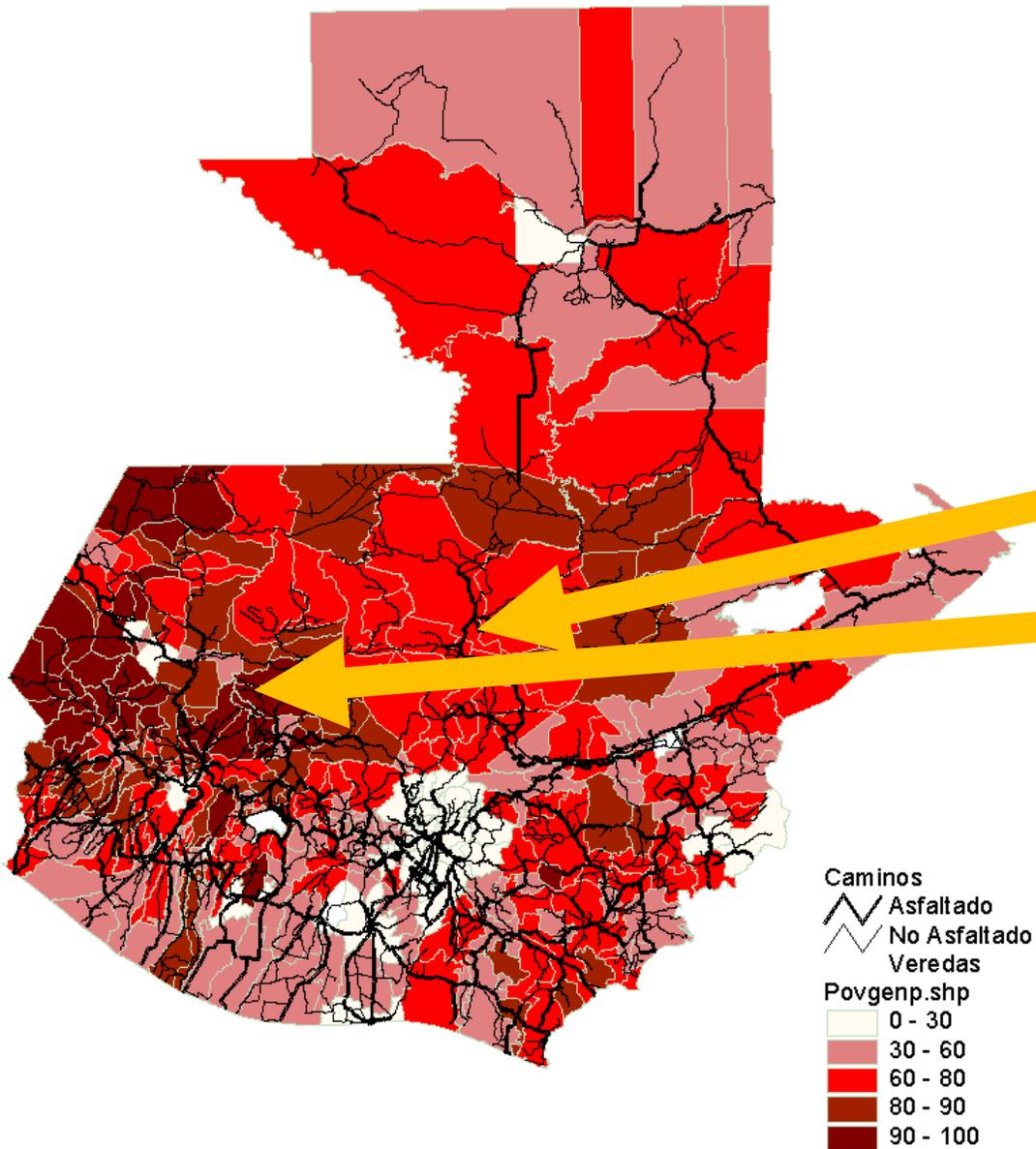
ICTs can help reduce bias



# BIAS: How much DID rural roads INVESTMENTS in Guatemala reduce poverty?



Roads: 'Endogeneity' overstates the role of roads.



## Bias: GEOGRAPHICALLY EXPLICIT DATABASE

- Administrative jurisdictions
- Roads (types of roads)
- Where did WB investment go (location)
- Poverty (headcount) at the municipio level
- Combined with LSMS data

# BIAS: What effect did rural road work in Guatemala have on poverty?

AFTER accounting for 'endogeneity' bias:

- 22% reduction in cost of access to schools.
- 33% reduction in cost of access to health centers.
- 16% reduction in access to markets.



ICTs CAN HELP  
PROVIDE  
OBJECTIVE AND  
EXPLICIT DATA

# Objective data: Philippines typhoons and effects on life and health

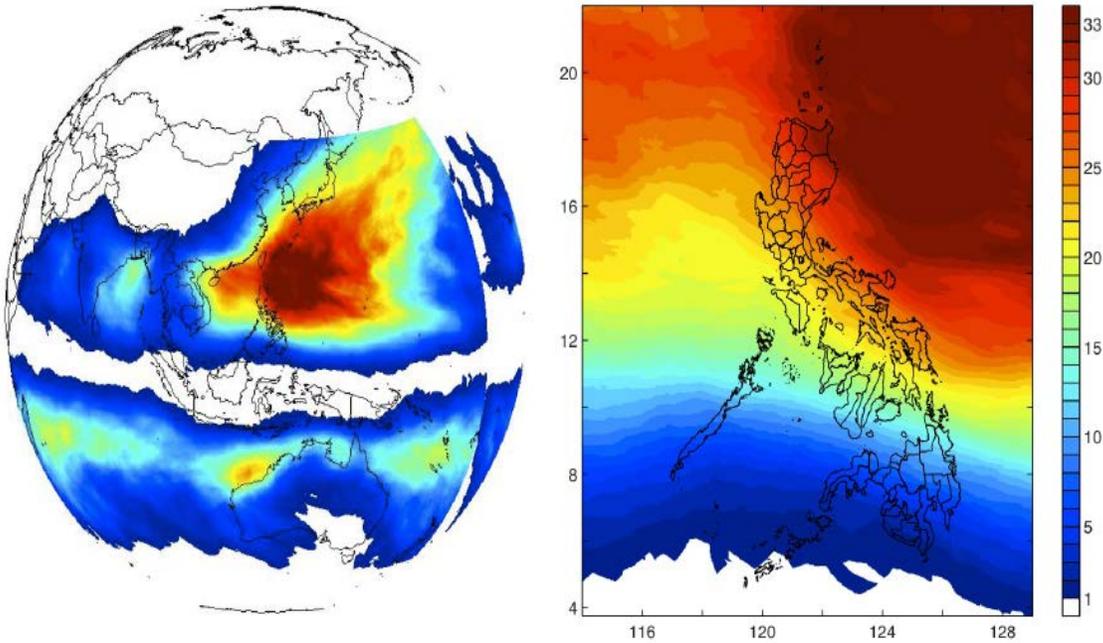
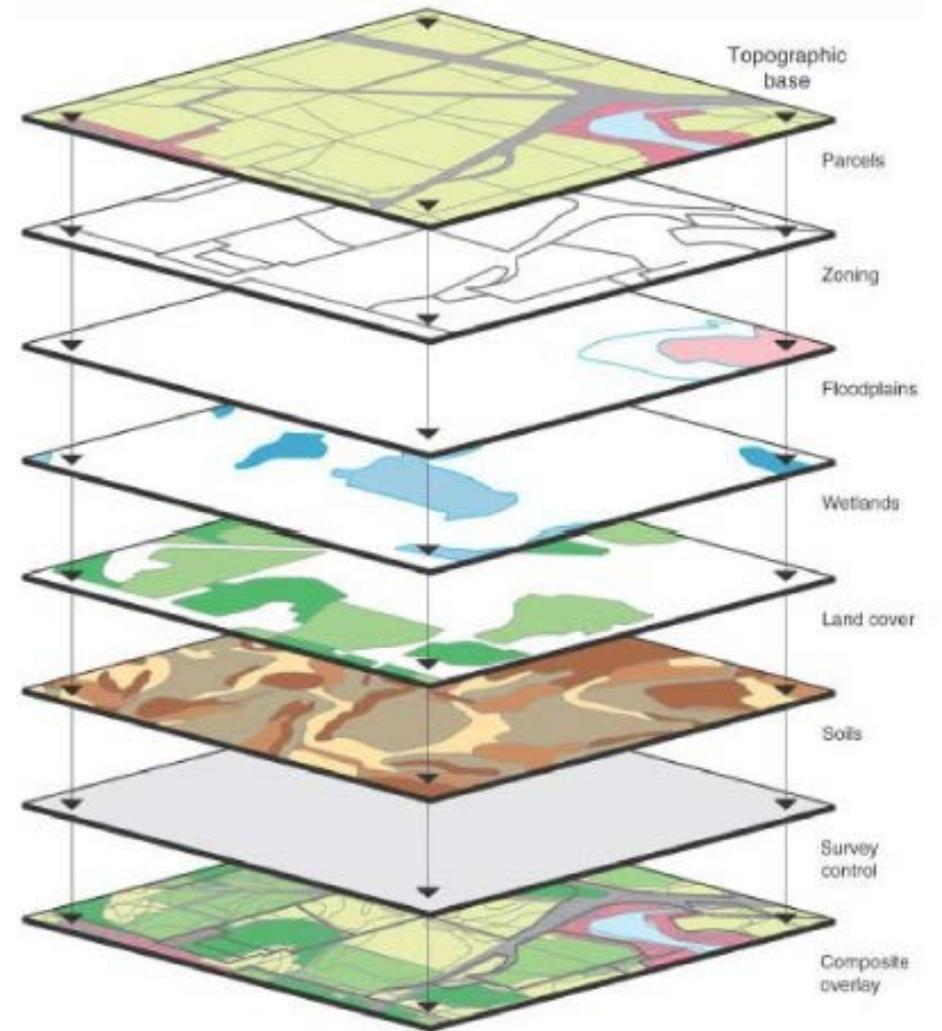
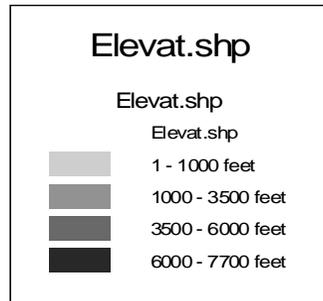
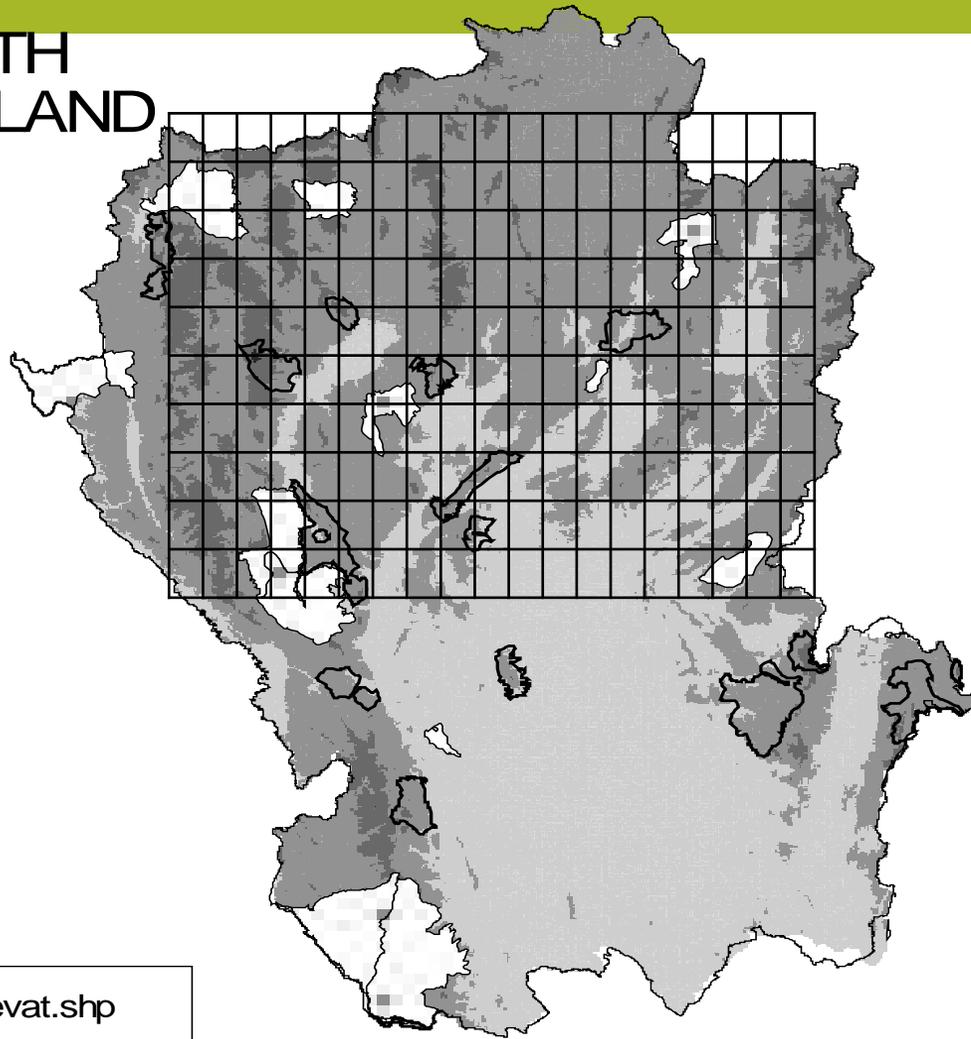


Figure I  
Annual maximum wind speed (in meters per second) averaged over 1950-2008. Data: LICRICE.



**Damages in the YEAR after typhoons are greater 15:1**

# NORTH THAILAND



PROVIDE OBJECTIVE DATA  
FOR BETTER EVALUATIONS

# ICTs HELP REDUCE COSTS OF EVALUATIONS



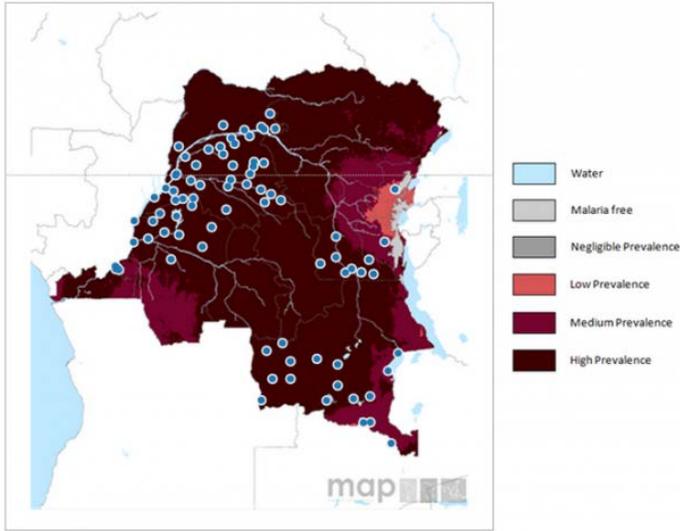
# MOBILE PHONE and wearable DATA



Passive latrine  
Use monitor  
Savings data



World Bank Malaria Project Locations in The Democratic Republic of the Congo and Estimates of Malaria Prevalence



Location data



Immunization



Rapid SMS report: patient registers, malnutrition

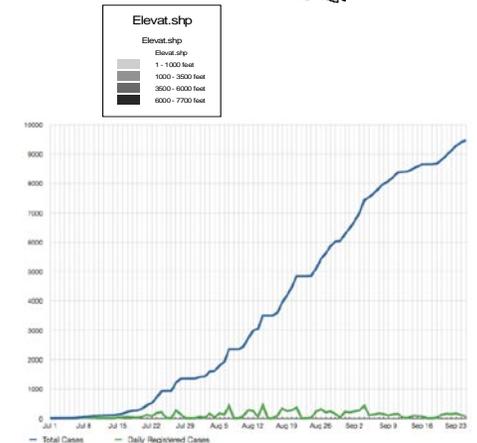
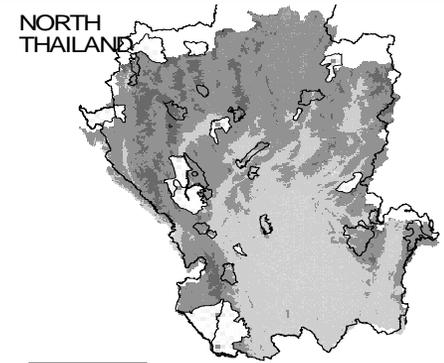
# ICTs Improve Data Quality

- **Reliable** data (if we collect again, will it be the same data?)
- **Valid** data (are we measuring what we are saying we are measuring?)
- Data **integrity** (IS it free of manipulation?)
- **Accurate** data (it measuring the indicator precisely?)
- **Timely** data (are you getting data on time?)
- **Secure** data (data loss?)



# COSTS OF EVALUATIONS

- Thailand: NO data collection cost.
- In the Millennium villages – the time for processing data reduced from 3 YEARS to 3 MONTHS.
- Impact evaluations with GIS cost ONE FOURTH.
- In other cases, reduced the sample size required



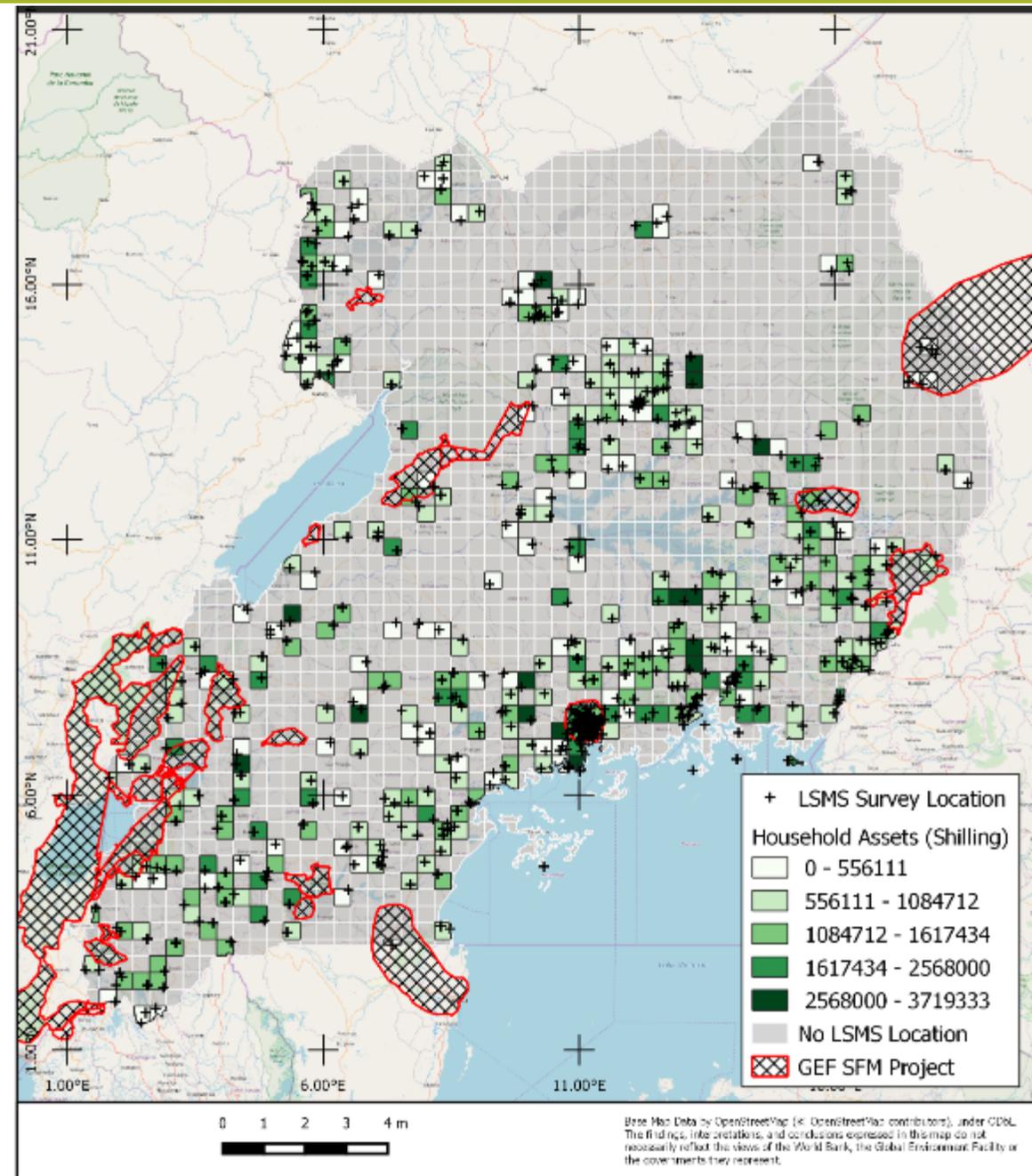
Minimum Detectable Effect Size (MDES), in percentages	Number of women To be surveyed
5%	6,193
10%	1,548
15%	688

# Issues addressed through geospatial analysis

- Location of projects
- Relevance of the intervention—is it in the right context?
- Trends in performance and impacts going far back in time...even if we didn't have baseline data?
- Factors influencing the outcomes
- Does the intervention deliver value for money?

- Geospatial data (environmental) combined with **survey data** (socioeconomic)
- Households in proximity to GEF SFM interventions have more in household assets as compared to households further away.

Positive Correlation with GEF,  
not causation



# Conclusions

ICTs can help

- Deal with **bias**.
- Get **objective** data
- Reduce **costs** of evaluations

But.... we still need to think about standardization, consent, privacy and methods.

