Pilot Site Selection Criteria and Household Survey for Climate Change Impact Assessment

Mehmet Ulubasoglu, Ph.D.
Associate Professor, Department of Economics
Deakin University, Australia

8 September, 2015

Scope of Presentation

❑ **Experimental design: Impact Assessment Method**

❑ **Household selection criteria**

❑ **Household survey tool: The Questionnaire**

Experimental Design: Impact Assessment Method

Designing the Experiment

❑ **Census versus Sample Survey**

Identify the key advantages of Census

Identify the Key advantages of Sample

Which one suits better for our context?

❑ **True Experiment versus Quasi-Experiment**

Randomisation in all stages- True Experiment

No Randomisation- Quasi Experiment

A Mix – Ideal Quasi Experiment

Main Challenge in Impact Assessment

Establishing Causality: Cause & Effect Analysis

How do we make sure that <u>data differences</u> between baseline and endline surveys observed among households are due to climate change induced flood events

- ❑ This is an issue of causality

- ❑ We attend to "internal validity" so that when we observe differences between groups, we can assure ourselves that this is because of the differences of interest
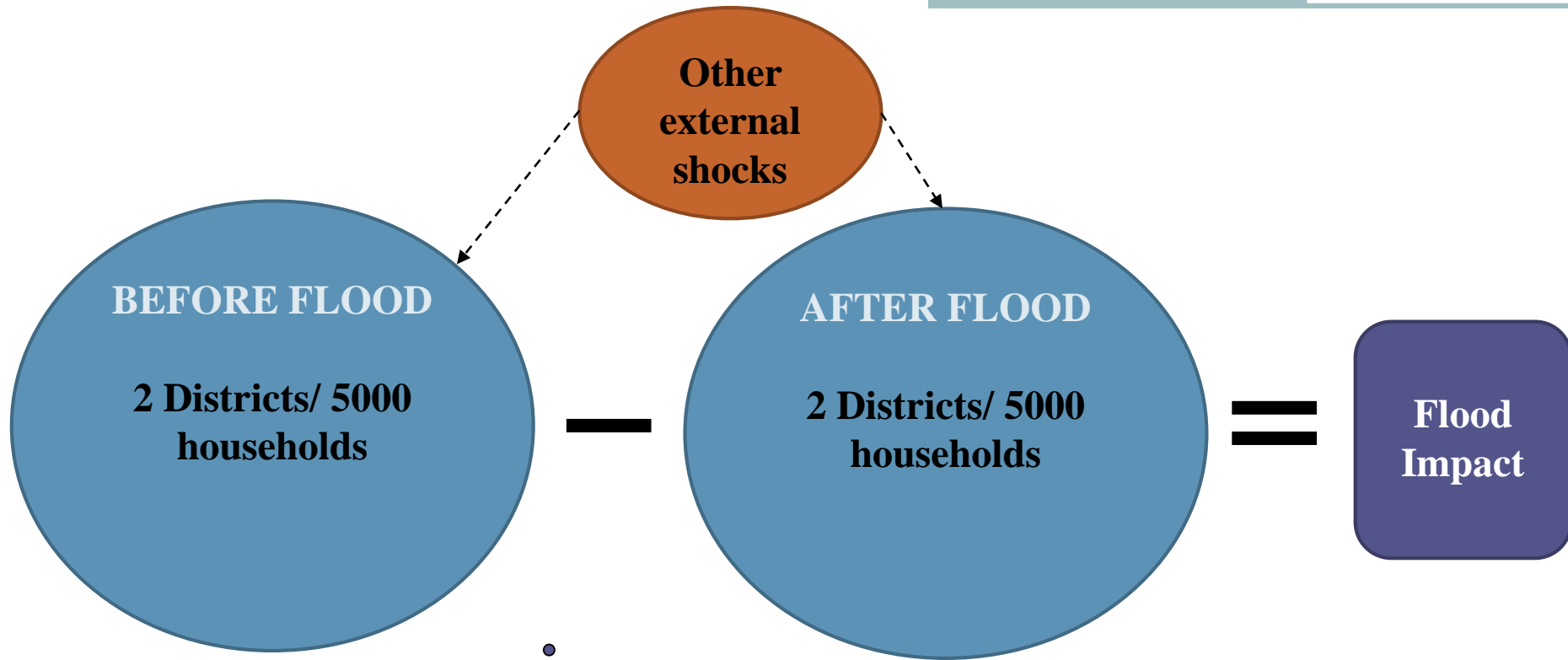
Internal and External Validity

❑Estimates have **internal validity** if conclusions valid for population being studied

❑Estimates have **external validity** if conclusions valid for other population– nothing in data will help with this

❑ **Is your sample representative of the population?**

▫ Make sure your study population (i.e., sample) is relevant to the general population
▫ Address by randomly sampling

Clarification

- Does Randomly sampling assignment represent a typical Nepali?
  - External validity

- Randomly assigning to the sample?
  - Internal validity

- Controlling for variables in the estimation model addresses?
  - Internal validity

- What study design addresses both internal and external validity?
  - Field experiments → Gold standard in research design

Designing the Experiment

Designing the Experiment

☐ **Experimental Design with Baseline and Endline Surveys**

Why do we need comparison Group?

To take out the effects of *Confounding* factors

Selection Criteria

Similarities to Treatment and Comparison Groups

Treatment Households

Comparison Households

Best Case: Both groups are exactly the same

Mid Case: Both groups are closely similar

Worst Case: Both groups are quite opposite

Similarities to Treatment and Comparison Groups

<u>Geographical settings</u>:

    Hazard profile

    Accessibility

    Climatic profile

    Soil quality

    Topographic settings

<u>Economic activities</u>:

    Income level

    Occupational status

    Capital assets

    Similar cropping patterns to what exists in the treatment group

    Other information available in the local government office

Similarities to Treatment and Comparison Groups

<u>Social structures</u>:

poverty affected

marginalized groups

other information available in the local government office

<u>Household characteristics</u>:

similar demographic structures (e.g., number of family members)

age and sex of the head of household

number of children going to school

other information available in the local government office

Step 1: Collecting district level historical flood data

Step 2: Divide districts into two groups- one experiencing floods (i.e.,

treated districts) and the rest never exposed to floods (Control

Districts);

Step 3: Randomly pick two districts from each group

Step 4: Collect landuse data in GIS format that provides information such

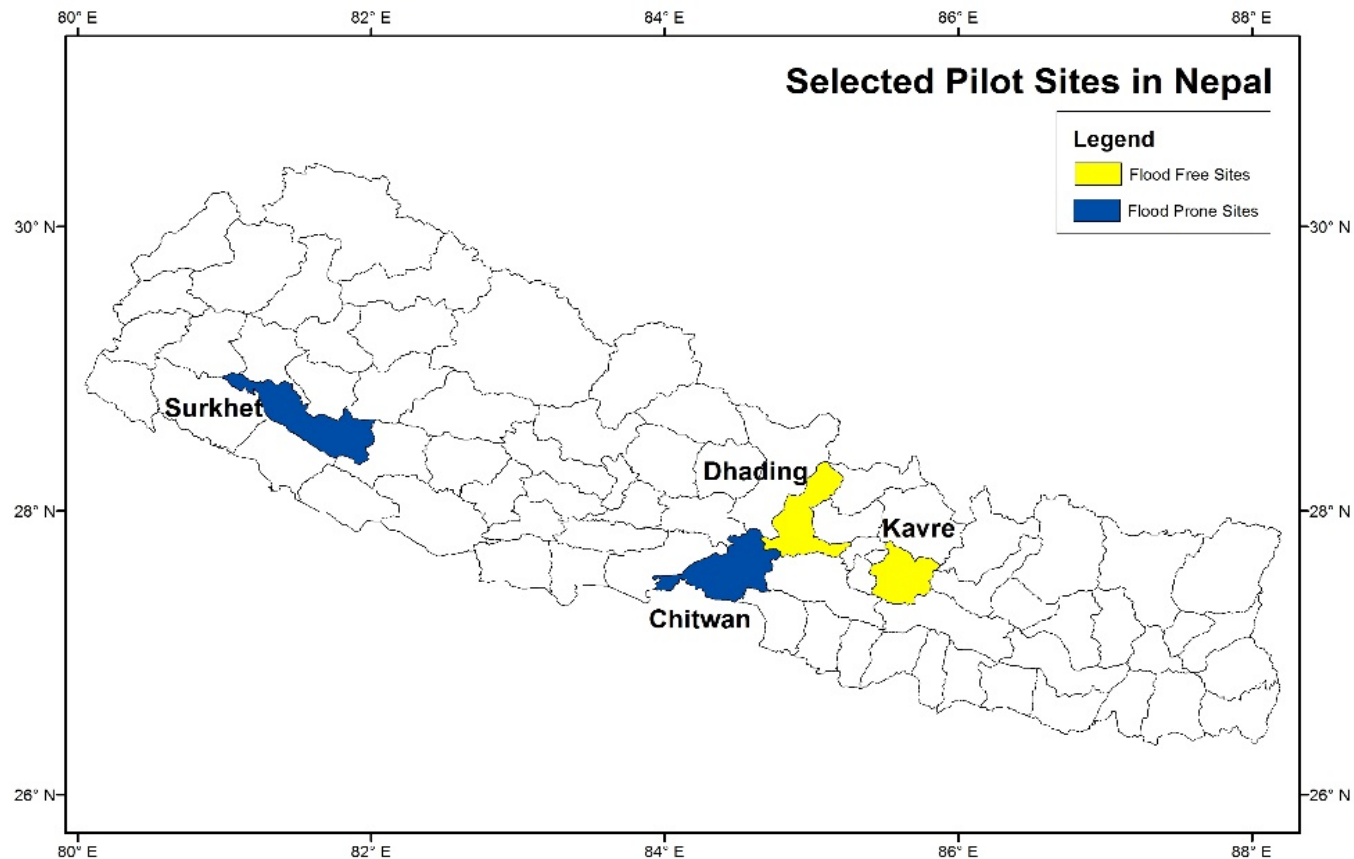as arable/farm land & type of crops cultivated in each unit of land

Step 5: Identify the agricultural plots/polygons of the selected districts in a

 map

Step 6: Randomly select 125 agricultural plots from each of 4 districts

Step 7: Identify the cultivators of these selected agricultural plots and get
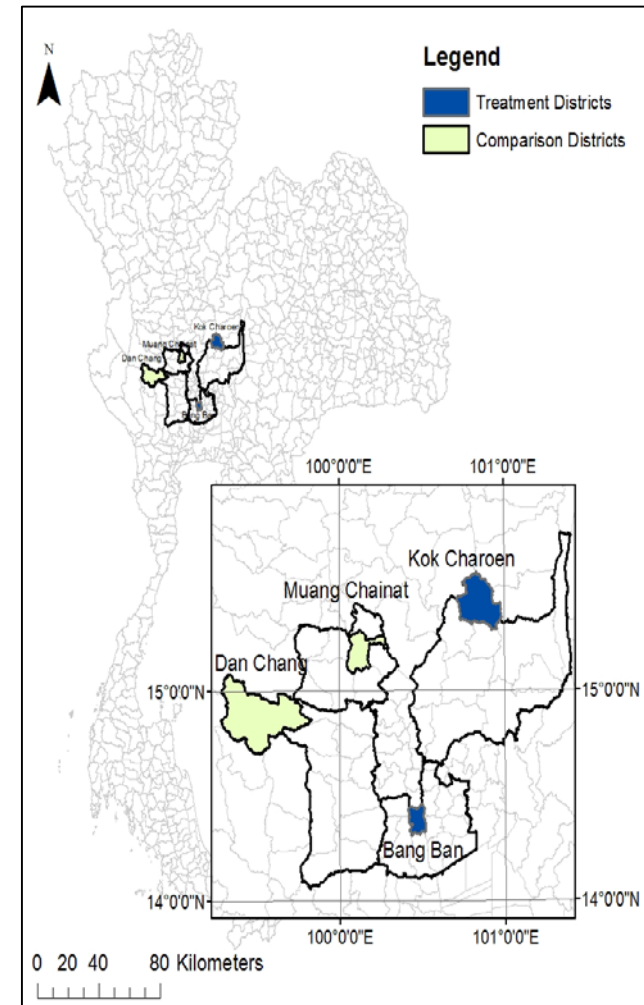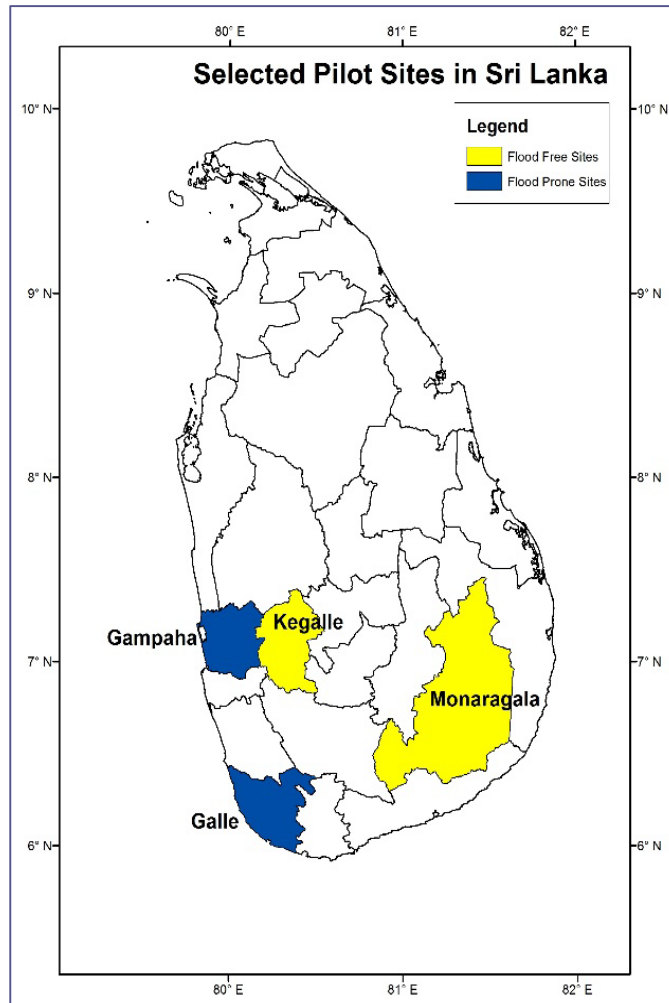
 them surveyed

Figure 1: Maps showing the pilot sites in Nepal
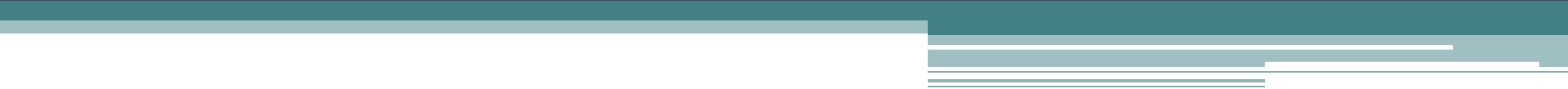
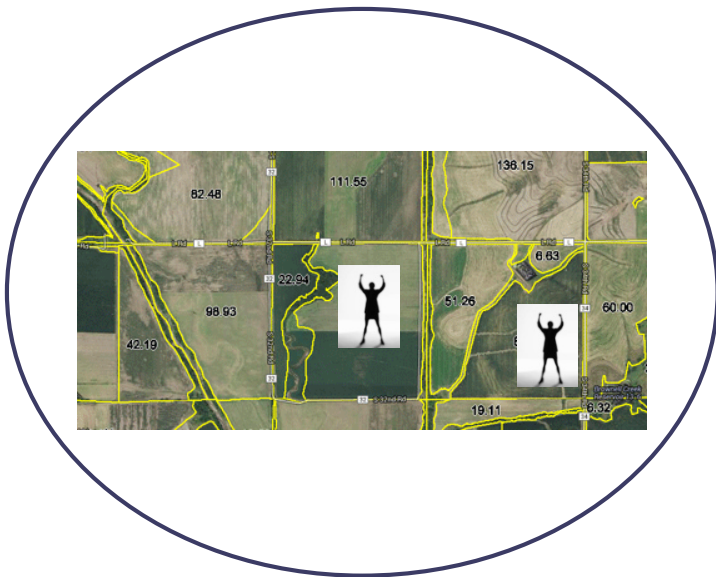**Figure 2: Maps showing the pilot sites in Sri Lanka and Thailand**

Household Survey:
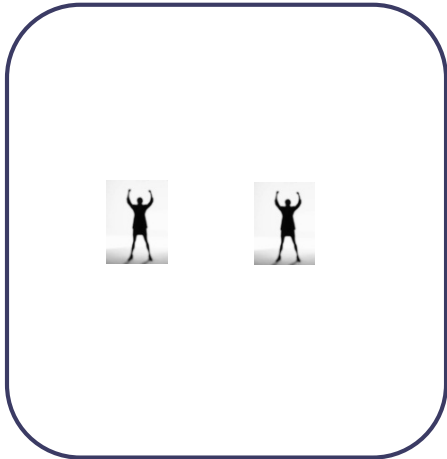# The Do's and Don'ts

Understanding the Scope of Survey

Agriculture Plots

Household

Non-response Bias

- One of the most serious problems for any HH Survey

- No response is failure to obtain information for selected households.

- A serious bias to be minimized by supervisors and surveyors

- Interviewers will need to make return visits to households

❑**No response may be classified into three basic types:**

- Type 1: the interviewer is unable to locate the selected household;

- Type 2: the interviewer is unwilling to visit the selected household;

- Type 3: the respondent refuses to be interviewed.

Type 3: Unwillingness to Respond

- Number of refusals should be closely monitored
- Reasons for frequent refusals

- What to do?

  - *Approach respondent from his/her point of view*

  - *Postpone interview to another day.*

  - *Have another surveyor carrying out the interview*

Handling Pending Interviews

- Pending interview-interview that was not completed and requires a <u>return visit</u>
- Who keeps track of pending interviews and how? Supervisors and interviewers via <u>control sheets</u>
- Planning and completing <u>call backs</u> for pending interviews before leaving the cluster
- Requires a good <u>division of work</u> to ensure that all planned interviews are completed

If no response, what to do? ...

- Pending interview-interview that was not completed and requires a <u>return visit</u>

- Who keeps track of pending interviews and how? Supervisors and interviewers via <u>control sheets</u>

- Planning and completing <u>call backs</u> for pending interviews before leaving the cluster

- Requires a good <u>division of work</u> to ensure that all planned interviews are completed

If no response, what to do?

We need to provide an additional list of households:

Main List

1. **HH-treatment**
2. **HH-control**

Backup List

1. **HHa-treatment**
2. **HHa-control**

!!! Pick the HHs from the Backup list chronologically !!!

Checking the *Filled* data

- ❑ **The Survey supervisor will continuously check the data that are filled in**

- ❑ **The Survey supervisor will look for errors and misconceptions among the surveyors about the questions**

THANK YOU