

# Nepal - Multi-Tier Framework for Measuring Energy Access 2017

**Energy Sector Management Assistance Program (ESMAP)**

Report generated on: November 4, 2019

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## Overview

### Identification

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#### ID NUMBER

NPL\_2017\_MTF\_v01\_M

### Version

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#### VERSION DESCRIPTION

- v01: Anonymous, cleaned raw dataset for public distribution.

#### NOTES

This dataset is the raw, cleaned data provided by the survey firm with all personal information, such as names and GPS locations, removed.

### Overview

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#### ABSTRACT

The World Bank, with the support of the Energy Sector Management Assistance Program (ESMAP), has launched the Global Survey on Energy Access, which relies on the Multi-Tier Framework (MTF) approach. The Global Survey on Energy Access using the Multi-Tier Framework approach in Nepal 2017 has as its primary objectives:

- To measure household access to electricity based on the following seven attributes: capacity, availability, reliability, quality, affordability, formality, and health and safety.
- To measure household access to modern energy cooking solutions based on the following six attributes: cooking exposure, cookstove efficiency, convenience, affordability, health and safety of primary cookstove, and fuel availability.
- To provide detailed household energy data, including data on all energy sources each household uses with details on each MTF attribute; energy-related spending; energy use; user preferences; willingness to pay for grid, off-grid, and cooking solutions; and the satisfaction of customers with their primary energy source, for governments, development partners, the private sector, non-governmental organizations, investors, and service providers.
- To provide disaggregated data by urban or rural location, by economic quintile, and by the gender of the household head.

#### KIND OF DATA

Sample survey data [ssd]

#### UNITS OF ANALYSIS

Household

### Scope

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#### NOTES

The scope of the Global Survey on Energy Access using the Multi-Tier Framework approach in Nepal (2017) includes:

- A) Household roster
- B) Household characteristics
- C) Supply and demand of electricity

- D) Willingness to pay for a grid connection
- E) Willingness to pay for improved electricity supply
- F) Willingness to pay for solar device
- G) Kerosene/fuel-based/candle lighting
- H) Dry-cell batteries
- I) Household fuel consumption for cooking
- J) Use of cooking solutions
- K) Space and water heating
- L) Willingness to pay for an improved cookstove
- M) Consumption/expenditure
- N) Household assets: Transportation and agricultural equipment ownership and total
- O) Household land ownership and other assets
- P) Household economic shocks
- Q) Street lighting
- R) Time use
- S) Health impacts
- T) Attitudes
- U) Women's empowerment

## Coverage

GEOGRAPHIC COVERAGE  
National coverage

## Producers and Sponsors

### PRIMARY INVESTIGATOR(S)

Name	Affiliation
Energy Sector Management Assistance Program (ESMAP)	The World Bank

### OTHER PRODUCER(S)

Name	Affiliation	Role
Alisha Pinto	World Bank	
Han Kyul Yoo	World Bank	
Elisa Portale	World Bank	
Dana Rysankova	World Bank	

### FUNDING

Name	Abbreviation	Role
The World Bank Group	WBG	

## OTHER ACKNOWLEDGEMENTS

Name	Affiliation	Role
Nawa Raj Dhakal	Alternative Energy Promotion Centre	Director General
Dr. Narayan Adhikari	Alternative Energy Promotion Centre	Director
Ram Prasad Dhital	Alternative Energy Promotion Centre	Executive Director
Dr. Bishwa Nath Oli	Ministry of Forests and Environment	Secretary
Hara Raj Neupane	Nepal Electricity Authority	Director
Suman Raj Aryal	Nepal Electricity Authority	Director General
Kulman Ghising	Nepal Electricity Authority	Managing Director
Shushil Kumar Sharma	Central Bureau of Statistics	Director
Pratibha Manandhar	Ministry of Energy	
Jaime Sologuren	EnDev Nepal	
Jens Deutsch	EnDev Nepal	
Madhusudan Adhikari	AEPC	
Satish Gautam	AEPC	

## Metadata Production

## METADATA PRODUCED BY

Name	Abbreviation	Affiliation	Role
Development Economics Data Group	DECDG	The World Bank	Documentation of the DDI

## DATE OF METADATA PRODUCTION

2019-10-09

## DDI DOCUMENT VERSION

Version 01 (October 2019)

## DDI DOCUMENT ID

DDI\_NPL\_2017\_MTF\_v01\_M\_WB

## Sampling

### Sampling Procedure

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The sample design for the Multi-Tier Framework for Measuring Energy Access conducted in Nepal (2017) was based on a two-stage stratification, aimed at being representative of the country at large. At the first stage, the enumeration areas wards were selected randomly from each of the newly formed provinces to be representative of urban and rural areas and the distinct ecological regions in Nepal (the Mountains, Hills, and Terai). The number of wards selected from each province was roughly in proportion to the province size (that is, the number of wards in a province). All in all, 400 wards were selected nationwide. The field teams visited each selected ward, and the enumerators compiled a list of the households in the ward to obtain an updated version of the total number of households in each ward and their grid-electrification status. In the second stage, 15 households were selected for interviews from the list for each ward. The criterion for selection of households was that a ratio of 50:50 grid-connected and non-grid households needed to be maintained, following the standard sampling methodology for the national household surveys of the MTF for Energy Access.

The MTF global survey has a benchmark of 3,500 households for a national-level survey, with a 50:50 distribution of urban and rural areas and 50:50 distribution of grid and non-grid households, if possible. Based on the needs of project teams within the World Bank, some additional areas were selected for oversampling to better understand the use of various cooking solutions. However, the oversample did not specifically target areas with existing programs on clean or improved stove distribution; instead larger administrative regions were selected to be included. With oversampling, the Nepal MTF survey covered a total of 6,000 households. The allocation aimed at generating a sample large enough to produce estimates by province, ecological region, rural and urban areas, and grid connection status. For rural and urban areas, the sample was drawn from all seven provinces and the three geographic areas (Mountain, Hill and Terai). The Hill region was further divided into two groups Kathmandu region and the rest of the Hill area to highlight the findings from the national capital area.

### Deviations from Sample Design

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At the time of the sample selection, the grid connection (electrification) status of wards was not available. The distribution was estimated based on the results from recent surveys, such as the 2013/14 Nepal household survey, which shows the share of households with electricity as their main source of light to be 72.9% in rural areas and 97.2% in urban areas. Because of the overwhelmingly large share of the grid households, both in urban and rural areas, it was not possible to maintain the planned 50:50 distribution of grid-connected and non-grid households in the sample. Accordingly, it was decided that the allocation of grid and non-grid households would be 10 and 5, respectively, in rural enumeration areas, and 13 and 2, respectively in urban enumeration areas.

### Response Rate

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Overall, 4,660 grid-connected and 1,340 non-grid households were sampled for the survey.

### Weighting

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Sample weights for the household data were computed as the inverse of the probability of selection of the household. The weights were adjusted for non-response households.

## Questionnaires

No content available

## Data Collection

### Data Collection Dates

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Start	End	Cycle
2017-07	2017-12	N/A

### Data Collection Mode

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Computer Assisted Personal Interview [capi]

### Data Collectors

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Name	Abbreviation	Affiliation
Solutions Consultant Pvt. Ltd.		Private survey firm

## Data Processing

### Data Editing

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No editing was done to the raw dataset available on this website, except removal of personal identifying information.

## Data Appraisal

No content available



# Documentation

## Questionnaires

### Nepal 2017 - Multi-Tier Framework on Energy Access Questionnaire

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Title Nepal 2017 - Multi-Tier Framework on Energy Access Questionnaire  
Country Nepal  
Language English  
Filename mtf\_nepal\_questionnaire\_household.pdf

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## Reports

### Nepal 2017 - Energy Access Diagnostic Report Based on the Multi-Tier Framework

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Title Nepal 2017 - Energy Access Diagnostic Report Based on the Multi-Tier Framework  
Country Nepal  
Language English  
Filename mtf-energy-access-country-diagnostic-report\_nepal-9.2019.pdf

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## Technical documents

### Sampling Strategy in Nepal for the Multi-Tier Framework Survey

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Title Sampling Strategy in Nepal for the Multi-Tier Framework Survey  
Country Nepal  
Language English  
Filename sampling\_strategy\_nepal\_mtf.pdf

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