Understanding the Current Usage Pattern of Residential Biomass Fuel and Its Implications In Northern Indian Region.

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Introduction:
- Presently in most of the middle-income countries meals are cooked with traditional stoves or open fires using biomass fuel as a source of energy as well as for heating purposes.
- It is estimated that as many as 70% of households in developing countries use fuels such as wood, dung and crop residues for cooking.
- Many researchers have reported with exhaustive data that solid biomass fuels emit substantial amounts of climate and health-damaging pollutants.
- Apparently the so far ‘free’ availability of biomass fuels from nature and at a very varied low cost are the obvious reasons behind their being used as a primary fuel source for household purposes.

Objective:
- The objective of the study was to determine the pattern and determinants of household sources of energy for cooking and heating in rural regions of north India. The present study is based on a structured questionnaire survey used for evaluating the cookstove and fuel usage pattern and identifies the knowledge gaps in previously conducted household level surveys.
- The primary data is collected from more than 500 households in many categories ranging from below poverty line(0-4999) to rich(15000-20000).

Methodology:
- Questionnaire Design, Field Survey, Data Collection & Analysis
- Survey Schedule in North India’s multiple districts & Villages' questionnaire preparation
- Data Analysis in terms of Food pattern, Energy Pattern, Health status & Economic Status.

Questionnaire:
- Literature, Pilot(Site) Study, Final questionnaire

Field Survey:
- Random Sampling: Randomly selected Household

Results: 500 Random Samples from Northern India region.

Family Size
- Small(1-5) 40%
- Medium(5-10) 38%
- Large(10-15) 19%

Cook Stove Used Pattern
- Traditional mud stove 4%
- Improved stove 19%
- LPG stove 69%
- Electric stove 26%
- Kerosene stove 0%

Literacy Pattern
- Illiterate 33%
- Primary (upto 5th) 14%
- High-School (6th-10th) 17%
- High School+ 16%

Eating Food Pattern
- Rice 18%
- Roti 16%
- Dal 13%
- Vegetable 27%
- Meat 18%

Occupation Pattern
- Farming 39%
- Daily wages 16%
- Salary 22%
- Business 44%

Fuel used pattern
- Firewood 20%
- Crop residue 8%
- Cow dung cake 32%
- Mixed fuel (FW+CD) 16%
- Coal 13%
- Kerosene 22%
- LPG 15%

Economic Status
- Below poverty line(0-4999) 7%
- Poor(5000-9999) 16%
- Middle(10000-15000) 32%
- Rich(15000-20000) 32%
- No income(0-0) 7%

Health Status
- Respiratory Issue (Ear/Nose/Throat) 7%
- Stomach Issue (Liver/Kidney) 32%
- ENT Issue (Ear/Nose/Throat) 15%
- Others 16%

Conclusion: Correlation between usage of Energy & Life style.

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