**Annex**

A1: Urban household's profile

|  |  |  |
| --- | --- | --- |
| **Socioeconomic and household variables** | **Counts (n)** | **Percentage (%)** |
| Gender | Male  | 278 | 45 |
| Female  | 345 | 55 |
| Age  | 18-35 | 205 | 33 |
| 36-50 | 249 | 40 |
| Above 51 | 169 | 27 |
| Education  | Below 10 Grade | 243 | 39 |
| 10- 12 grade | 212 | 34 |
| Undergraduate  | 125 | 20 |
| Graduate and above  | 43 | 7 |
| Expenditure groups | Below $200  | 119 | 19 |
| $200-$400  | 374 | 60 |
| Above $401 | 130 | 21 |
| Property ownership | Male  | 326 | 52 |
| Female  | 172 | 28 |
| Joint  | 125 | 20 |
| Family types | Joint  | 106 | 17 |
| Nuclear | 485 | 78 |
| Single | 32 | 5 |
| Headship | Male  | 419 | 67 |
| Female  | 129 | 21 |
| Joint  | 75 | 12 |
| Ethnicity groups | Brahmin/Chhetri  | 246 | 39 |
| Newars  | 260 | 42 |
| Rai/limbu/Tamang  | 60 | 10 |
| Others  | 57 | 9 |
| Electric appliances users  | 1 to 5  | 100 | 16 |
| 5 to 10 | 357 | 58 |
| 11 to 15  | 146 | 23 |
| 16 above | 20 | 3 |
| House type | Modern | 527 | 85 |
| Traditional  | 39 | 6 |
| Mixed | 57 | 9 |
| Residence type  | Own  | 364 | 58 |
| Rental  | 259 | 42 |

A2: Table 5. Energy cost in different ethnicities

|  |  |  |
| --- | --- | --- |
| **Location** | **Ethnicity**  | **Energy cost** |
| Inner-city | Brahmin/Chhetri | 1650 |
| Newars | 2361 |
| Rai/Limbu/Tamang | 1460 |
| Others | 1831 |
| Middle-city | Brahmin/chhetri | 2066 |
| Newars | 3076 |
| Rai/Limbu/Tamang | 2054 |
| Others | 2155 |
| Outer-city  | Brahmin/chhetri | 2107 |
| Newars | 2418 |
| Rai/Limbu/Tamang | 1398 |
| Others | 2450 |

A3: Energy and environmental variables

|  |  |  |  |
| --- | --- | --- | --- |
| Variables | Male | Female | Joint |
| Minor Household  | 22% | 39% | 40% |
| Health issues | 22% | 24% | 54% |
| Social involvement  | 27% | 27% | 46% |
| Cooking fuel  | 25% | 33% | 42% |
| Electrical appliances  | 25% | 15% | 60% |
| Furniture/clothes  | 23% | 16% | 61% |
| Property -Land/House | 28% | 13% | 59% |

A4: Energy sustainability indicators

|  |  |
| --- | --- |
|  | **Economic aspects of energy consumption**  |
|  |  |  |  |  |
| **S.N.** | **Description**  | **Inner-city** | **Middle-city** | **Outer-city** |
| 1 | Proportion of income and electrical appliances use | Low-income-7 (24%)Middle-income-10 (61%)High-income- 11 (15%) | Low-income-7 (17%)Middle-income-9 (59%)High-income-12 (25%) | Low-income-6 (18%)Middle-income-9 (60%)High-income-11 (22%) |
| 2 |  Electric fan | 68% | 61% | 53% |
| 3 | Electric/gas heater | 27% | 39% | 39% |
| 4 | Vacuum cleaner | 28% | 41% | 36% |
| 5 | Solar use  | 17% | 42% | 41% |
| 6 | Income and share of energy cost proportion | Low-income-13%Middle-income-7%High-income-4% | Low-income-14%Middle-income-7%High-income-4% | Low-income-11%Middle-income-6%High-income-3% |

A5: sustainable aspects of energy consumption

|  |  |
| --- | --- |
|  | **Social aspects of energy consumption** |
|  |  |  |  |  |
| **S.N.** | **Description**  | **Inner-city** | **Middle-city** | **Outer-city** |
|
| 1 | Context - Energy-intensive activities  | 30 (Nos) | 12 (Nos) | 10 (Nos) |
| 2 | Aspiration of new technology - shifting  | 50% | 41% | 44% |
| 3 | Crisis management (extra cylinders) | 22% | 20% | 20% |
| 4 | Crisis management (Induction) | 6% | 5% | 5% |
| 5 | Crisis management (LPG + induction) | 2% | 4% | 3% |
| 6 | Crisis management (Kerosene +LPG) | 3% | 2% | 1% |
| 7 | Crisis management (fuelwood) | 4% | 5% | 5% |
| 8 | Knowledge of Rainwater Harvesting | 15% | 22% | 24% |
| 9 | Female Participation in CFP | 27% | 33% | 37% |
| 10 | Female Participation in EAP | 18% | 12% | 16% |
| 11 | Joint Participation CFP | 43% | 46% | 38% |
| 12 | joint Participation EAP | 47% | 67% | 65% |

|  |  |
| --- | --- |
|  | **Environmental aspects of energy consumption**  |
|  |  |  |  |  |
| **S.N.** | **Description**  | **Inner-city** | **Middle-city** | **Outer-city** |
|  | Use of electric kitchen hoods |  |  |  |
| 1 | Exhaust fan | 21% | 41% | 38% |
| 2 | Chimney | 17% | 49% | 34% |
| 3 | Energy use (LPG + induction) | 3% | 5% | 7% |
| 4 | Energy use (LPG) | 82% | 85% | 82% |
| 5 | Gender role in kitchen work (Joint) | 25% | 39% | 36% |
| 6 | Cooking culture | 73% | 62% | 63% |
| 7 | No. of Windows (two windows) | 3% | 14% | 9% |
| 8 | Air quality of kitchen (CO2) based on test -poor | 50%  | 30% | 20% |
| 9 | Comfort feeling during cooking -gender | 31% | 36% | 33% |
| 10 | Kitchen design without window | 24% | 33% | 37% |

A6: Sustainability score in three city-layers

|  |  |
| --- | --- |
|  | **Economic Sustainability Checklist** |
|  |  |  |  |  |
| **S.N.** | **Description** | **Inner-city** | **Middle-city** | **Outer-city** |
| 1 | Use of electrical appliances | 6 | 6 | 5 |
| 2 | Electric Cooling system use | 4 | 4 | 5 |
| 3 | Electric heating system | 8 | 7 | 7 |
| 4 | Vacuum cleaner | 3 | 5 | 4 |
| 5 | Solar use  | 2 | 5 | 5 |
| 6 | Number of appliances  | 5 | 5 | 5 |
| 7 | Income and share of energy cost proportion | 7 | 7 | 8 |
|  | SD Values Obtained out of 100 score | **50** | **56** | **56** |

|  |  |  |
| --- | --- | --- |
|  | **Social Sustainability Checklist** |  |
|  |  |  |  |  |
| **S.N.** | **Description**  | **Inner-city** | **Middle-city** | **Outer-city** |
| 1 | Culture - Energy-intensive activities | 4 | 8 | 9 |
| 2 | Aspiration of new technology - shifting  | 6 | 5 | 5 |
| 3 | Crisis management (extra cylinders) | 8 | 9 | 9 |
| 4 | Crisis management (Induction) | 6 | 5 | 5 |
| 5 | Crisis management (LPG+ Induction) | 2 | 4 | 3 |
| 6 | Crisis management (Kerosene+ LPG) | 8 | 9 | 2 |
| 7 | Crisis management (fuelwood) | 1 | 2 | 2 |
| 8 | Knowledge of Rainwater Harvesting | 8 | 7 | 6 |
| 9 | Female Participation in CFP | 2 | 3 | 3 |
| 10 | Female Participation in EAP | 2 | 2 | 2 |
| 11 | Joint Participation CFP | 5 | 6 | 4 |
| 12 | joint Participation EAP | 5 | 7 | 7 |
|  |  SD Values Obtained | **48** | **56** | **48** |

Confidence level -95%

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| --- | --- |
|  | **Environmental Sustainability checklist** |
|  |  |  |  |  |
| **S.N.** | **Description**  | **Inner-city** | **Middle-city** | **Outer-city** |
| 1 | No. of Windows | 5 | 9 | 8 |
| 2 | Exhaust fan | 3 | 5 | 4 |
| 3 | Chimney | 2 | 5 | 4 |
| 4 | Gender role in kitchen work | 3 | 5 | 4 |
| 5 | Cooking culture | 7 | 8 | 8 |
| 6 | Energy use (fuel use) | 6 | 7 | 8 |
| 7 | Air quality of kitchen (CO2) | 5 | 8 | 9 |
| 8 | Air quality comfort feeling | 5 | 8 | 9 |
| 9 | Social events | 7 | 9 | 10 |
| 10 | Kitchen design problem | 7 | 6 | 6 |
|  | SD Values Obtained  | **50** | **70** | **70** |