## Supplementary Materials

Table S1. Water Insecurity scale statements (experienced the water related issues in the past 30 days).
I worry about my household would collect less amount of water than needed.

My household could not use safe drinking water.

My household use poor quality of water (e.g., colored water/ smelled water).

My house could not clean enough.

My household collected water from an undesirable/ dirty source.

I took long time for water collection.

I dispute with neighbour/ tenant/owner due to water.

I dispute with family members due to water.

I and my family reduced time for daily work/ income generating activities due to water collection.

My children reduced time for studies or missed school due to water collection.

My household paid much money to buy safe water.

I and my family members could not participate in any social activities such as wedding/occasions/festivals due to water collection.

I and my family members slept very few hours because of water collection.

I and my family members cook undesirable food because there was not enough water.

I and my family members have health problems/weakness/tiredness because of water collection

Table S2. Estimates of water treatment cost by fixed effects for social and economic variables.

| Parameter | Estimate | Std. Error | df |  |  |  |  | 95\% Confidence <br> Interval |  |
| :--- | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | :---: |


| (Ethnicity-3 = Janajati) | -831.1 | 488.5 | 1366 | -1.70 | 0.09 | -1789.46 | 127.17 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| (Ethnicity-4 = Teraibasi) | -765.0 | 414.0 | 1366 | -1.85 | 0.07 | -1577.06 | 47.16 |
| (Ethnicity-5 = Dalit) | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - |  |
| (EduHigher-0 $=$ Illiterate) | 178.2 | 433.3 | 1366 | 0.41 | 0.68 | -671.77 | 1028.09 |
| (EduHigher-1 = No formal school) | -282.0 | 423.6 | 1366 | -0.67 | 0.51 | -1113.00 | 548.94 |
| (EduHigher-2 $=$ Primary Secondary school) | -288.7 | 280.7 | 1366 | -1.03 | 0.30 | -839.35 | 262.01 |
| (EduHigher-3 = High School) | 24.5 | 320.8 | 1366 | 0.08 | 0.94 | -604.87 | 653.87 |
| (EduHigher-4 = University) | $0^{\text {b }}$ | 0.0 | - | - | - | - |  |
| (Wquin-1 = Poorest) | -79.9 | 284.7 | 1366 | -0.28 | 0.78 | -638.31 | 478.54 |
| (Wquin-2 = Poor) | -95.9 | 305.1 | 1366 | -0.31 | 0.75 | -694.40 | 502.68 |
| (Wquin-3 = Middle) | 156.2 | 288.3 | 1366 | 0.54 | 0.59 | -409.37 | 721.68 |
| (Wquin-4 = Rich) | 134.6 | 249.1 | 1366 | 0.54 | 0.59 | -353.95 | 623.25 |
| (Wquin-5 = Richest) | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - |  |
| (WIIndex-1 = High) | 463.2 | 298.5 | 1366 | 1.55 | 0.12 | -122.36 | 1048.85 |
| (WIIndex-2 $=$ Medium) | 75.6 | 242.2 | 1366 | 0.31 | 0.76 | -399.60 | 550.73 |
| (WIIndex-3 = Low) | $0{ }^{\text {b }}$ | 0.0 | - | - | - |  |  |
| $($ DISTRICT $=1) \times($ Ethnicity $=1)$ | 942.5 | 397.3 | 1366 | 2.37 | 0.02 | 163.02 | 1721.89 |
| $($ DISTRICT $=1) \times($ Ethnicity $=2)$ | 847.4 | 393.1 | 1366 | 2.16 | 0.03 | 76.19 | 1618.56 |
| $($ DISTRICT $=1) \times($ Ethnicity $=3)$ | 801.4 | 411.9 | 1366 | 1.95 | 0.05 | -6.52 | 1609.39 |
| $($ DISTRICT $=1) \times($ Ethnicity $=4)$ | 721.6 | 274.8 | 1366 | 2.63 | 0.01 | 182.57 | 1260.68 |
| ( IISTRICT $^{\text {a }}$ ) $\times($ Ethnicity $=5)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - |  |  |
| $($ DISTRICT $=2) \times($ Ethnicity $=1)$ | 626.6 | 331.3 | 1366 | 1.89 | 0.06 | -23.34 | 1276.63 |
| $($ DISTRICT $=2) \times($ Ethnicity $=2)$ | 517.7 | 327.9 | 1366 | 1.58 | 0.12 | -125.68 | 1160.99 |
| $($ DISTRICT $=2) \times($ Ethnicity $=3)$ | 650.5 | 349.7 | 1366 | 1.86 | 0.06 | -35.40 | 1336.43 |
| $($ DISTRICT $=2) \times($ Ethnicity $=4)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - |  |
| $($ DISTRICT $=2) \times($ Ethnicity $=5)$ | $0{ }^{\text {b }}$ | 0.0 | - |  | - |  |  |
| $($ DISTRICT $=3) \times($ Ethnicity $=1)$ | $0{ }^{\text {b }}$ | 0.0 |  |  |  |  |  |
| $($ DISTRICT $=3) \times($ Ethnicity $=2)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - |  |  |
| $($ DISTRICT $=3) \times($ Ethnicity $=3)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - |  |  |
| $($ DISTRICT $=3) \times($ Ethnicity $=4)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - |  |  |
| $($ DISTRICT $=1) \times($ EduHigher $=0)$ | -145.0 | 253.0 | 1366 | -0.57 | 0.57 | -641.35 | 351.33 |
| $($ DISTRICT $=1) \times($ EduHigher $=1)$ | 3.5 | 232.9 | 1366 | 0.02 | 0.99 | -453.34 | 460.40 |
| $($ (DISTRICT $=1) \times($ EduHigher $=2)$ | -72.9 | 111.1 | 1366 | -0.66 | 0.51 | -290.85 | 145.01 |
| $($ DISTRICT $=1) \times($ EduHigher $=3)$ | -36.2 | 124.8 | 1366 | -0.29 | 0.77 | -280.97 | 208.60 |
| $($ DISTRICT $=1) \times($ EduHigher $=4)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - |  |
| $($ DISTRICT $=2) \times($ EduHigher $=0)$ | 64.5 | 353.1 | 1366 | 0.18 | 0.86 | -628.29 | 757.23 |
| $($ (DISTRICT $=2) \times($ EduHigher $=1)$ | -201.5 | 269.5 | 1366 | -0.75 | 0.46 | -730.15 | 327.22 |
| $($ (DISTRICT $=2) \times($ EduHigher $=2)$ | -180.8 | 135.4 | 1366 | -1.34 | 0.18 | -446.41 | 84.89 |
| $($ DISTRICT $=2) \times($ EduHigher $=3)$ | 26.3 | 148.0 | 1366 | 0.18 | 0.86 | -264.02 | 316.60 |
| $($ DISTRICT $=2) \times($ EduHigher $=4)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - |  |
| $($ (DISTRICT $=3) \times($ EduHigher $=0)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - |  |
| $($ DISTRICT $=3) \times($ EduHigher $=1)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - |  |
| $($ DISTRICT $=3) \times($ EduHigher $=2)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - |  |
| $($ DISTRICT $=3) \times($ EduHigher $=3)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - |  |
| $($ DISTRICT $=3) \times($ EduHigher $=4)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - |  |
| $($ DISTRICT $=1) \times($ WQuin $=1)$ | 45.3 | 151.1 | 1366 | 0.30 | 0.76 | -251.13 | 341.76 |
| $($ DISTRICT $=1) \times($ WQuin $=2)$ | 27.4 | 230.7 | 1366 | 0.12 | 0.91 | -425.20 | 479.93 |
| $($ DISTRICT $=1) \times($ WQuin $=3)$ | -85.2 | 152.1 | 1366 | -0.56 | 0.58 | -383.53 | 213.13 |
| $($ DISTRICT $=1) \times($ WQuin $=4)$ | -47.9 | 100.6 | 1366 | -0.48 | 0.63 | -245.21 | 149.35 |
| $($ DISTRICT $=1) \times($ WQuin $=5)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - |  |
| ( DISTRICT $=2) \times($ WQuin $=1)$ | -247.7 | 177.8 | 1366 | -1.39 | 0.16 | -596.56 | 101.20 |
| $($ (IISTRICT $=2) \times($ WQuin $=2)$ | -246.2 | 252.1 | 1366 | -0.98 | 0.33 | -740.78 | 248.36 |
| $($ DISTRICT $=2) \times($ WQuin $=3)$ | -409.1 | 179.0 | 1366 | -2.29 | 0.02 | -760.25 | -57.91 |


| $($ DISTRICT $=2) \times($ WQuin $=4)$ | -254.2 | 136.6 | 1366 | -1.86 | 0.06 | -522.18 | 13.80 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $($ DISTRICT $=2) \times($ WQuin $=5)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - | - |
| $($ DISTRICT $=3) \times($ WQuin $=1)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - | - |
| $($ DISTRICT $=3) \times($ WQuin $=2)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - | - |
| $($ DISTRICT $=3) \times($ WQuin $=3)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - | - |
| $($ DISTRICT $=3) \times($ WQuin $=4)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - | - |
| $($ DISTRICT $=3) \times($ WQuin $=5)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - | - |
| $($ DISTRICT $=1) \times($ WIIndex $=1)$ | 220.5 | 162.9 | 1366 | 1.35 | 0.18 | -98.99 | 540.05 |
| $($ DISTRICT $=1) \times($ WIIndex $=2)$ | 35.2 | 168.9 | 1366 | 0.21 | 0.84 | -296.21 | 366.59 |
| $($ DISTRICT $=1) \times($ WIIndex $=3)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - | - |
| $($ DISTRICT $=2) \times($ WIIndex $=1)$ | 951.8 | 181.4 | 1366 | 5.25 | 0.00 | 596.01 | 1307.58 |
| $($ DISTRICT $=2) \times($ WIIndex $=2)$ | 188.9 | 179.5 | 1366 | 1.05 | 0.29 | -163.13 | 540.99 |
| $($ DISTRICT $=2) \times($ WIIndex $=3)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - | - |
| $($ DISTRICT $=3) \times($ WIIndex $=1)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - | - |
| $($ DISTRICT $=3) \times($ WIIndex $=2)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - | - |
| $($ DISTRICT $=3) \times($ WIIndex $=3)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - |  |
| $($ Ethnicity $=1) \times($ EduHigher $=0)$ | -258.0 | 381.2 | 1366 | -0.68 | 0.50 | -1005.81 | 489.84 |
| $($ Ethnicity $=1) \times($ EduHigher $=1)$ | 418.2 | 360.3 | 1366 | 1.16 | 0.25 | -288.58 | 1125.04 |
| $($ Ethnicity $=1) \times($ EduHigher $=2)$ | 208.1 | 260.5 | 1366 | 0.80 | 0.43 | -302.88 | 719.04 |
| $($ Ethnicity $=1) \times($ EduHigher $=3)$ | -123.3 | 293.9 | 1366 | -0.42 | 0.68 | -699.81 | 453.25 |
| $($ Ethnicity $=1) \times($ EduHigher $=4)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - | - |
| $($ Ethnicity $=2) \times($ EduHigher $=0)$ | -160.4 | 362.6 | 1366 | -0.44 | 0.66 | -871.72 | 550.94 |
| $($ Ethnicity $=2) \times($ EduHigher $=1)$ | 281.3 | 357.6 | 1366 | 0.79 | 0.43 | -420.25 | 982.90 |
| $($ Ethnicity $=2) \times($ EduHigher $=2)$ | 206.0 | 261.3 | 1366 | 0.79 | 0.43 | -306.60 | 718.53 |
| $($ Ethnicity $=2) \times($ EduHigher $=3)$ | -136.1 | 296.0 | 1366 | -0.46 | 0.65 | -716.80 | 444.53 |
| $($ Ethnicity $=2) \times($ EduHigher $=4)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - |  |
| $($ Ethnicity $=3) \times($ EduHigher $=0)$ | -268.5 | 371.2 | 1366 | -0.72 | 0.47 | -996.59 | 459.68 |
| $($ Ethnicity $=3) \times($ EduHigher $=1)$ | 333.0 | 375.7 | 1366 | 0.89 | 0.38 | -404.05 | 1069.96 |
| $($ Ethnicity $=3) \times($ EduHigher $=2)$ | 145.0 | 266.8 | 1366 | 0.54 | 0.59 | -378.50 | 668.45 |
| $($ Ethnicity $=3) \times($ EduHigher $=3)$ | -292.5 | 300.4 | 1366 | -0.97 | 0.33 | -881.72 | 296.69 |
| $($ Ethnicity $=3) \times($ EduHigher $=4)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - | - |
| $($ Ethnicity $=4) \times($ EduHigher $=0)$ | -447.6 | 554.1 | 1366 | -0.81 | 0.42 | -1534.63 | 639.44 |
| $($ Ethnicity $=4) \times($ EduHigher $=1)$ | 267.1 | 393.7 | 1366 | 0.68 | 0.50 | -505.27 | 1039.40 |
| $($ Ethnicity $=4) \times($ EduHigher $=2)$ | 163.6 | 290.3 | 1366 | 0.56 | 0.57 | -405.85 | 733.10 |
| $($ Ethnicity $=4) \times($ EduHigher $=3)$ | -158.9 | 321.0 | 1366 | -0.50 | 0.62 | -788.58 | 470.72 |
| $($ Ethnicity $=4) \times($ EduHigher $=4)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - |  |
| $($ Ethnicity $=5) \times($ EduHigher $=0)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - |  |
| $($ Ethnicity $=5) \times($ EduHigher $=1)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - |  |
| $($ Ethnicity $=5) \times($ EduHigher $=2)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - | - |
| $($ Ethnicity $=5) \times($ EduHigher $=3)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - | - |
| $($ Ethnicity $=5) \times($ EduHigher $=4)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - | - |
| $($ Ethnicity $=1) \times($ WQuin $=1)$ | 117.9 | 234.6 | 1366 | 0.50 | 0.62 | -342.28 | 578.18 |
| $($ Ethnicity $=1) \times($ WQuin $=2)$ | 68.0 | 202.3 | 1366 | 0.34 | 0.74 | -328.83 | 464.80 |
| $($ Ethnicity $=1) \times($ WQuin $=3)$ | -22.3 | 241.2 | 1366 | -0.09 | 0.93 | -499.55 | 450.87 |
| $($ Ethnicity $=1) \times($ WQuin $=4)$ | -73.4 | 222.7 | 1366 | -0.33 | 0.74 | -510.36 | 363.57 |
| $($ Ethnicity $=1) \times($ WQuin $=5)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - | - |
| $($ Ethnicity $=2) \times($ WQuin $=1)$ | 71.1 | 233.6 | 1366 | 0.30 | 0.76 | -387.12 | 529.32 |
| $($ Ethnicity $=2) \times($ WQuin $=2)$ | 52.5 | 200.7 | 1366 | 0.26 | 0.79 | -341.21 | 446.21 |
| $($ Ethnicity $=2) \times($ WQuin $=3)$ | 26.6 | 241.4 | 1366 | 0.11 | 0.91 | -446.86 | 500.15 |
| $($ Ethnicity $=2) \times($ WQuin $=4)$ | -85.2 | 222.6 | 1366 | -0.38 | 0.70 | -521.99 | 351.54 |
| $($ Ethnicity $=2) \times($ WQuin $=5)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - | - |
| $($ Ethnicity $=3) \times($ WQuin $=1)$ | 121.5 | 244.0 | 1366 | 0.50 | 0.62 | -357.15 | 600.15 |
| $($ Ethnicity $=3) \times($ WQuin $=2)$ | 143.0 | 213.9 | 1366 | 0.67 | 0.50 | -276.68 | 562.67 |
| $($ Ethnicity $=3) \times($ WQuin $=3)$ | 33.0 | 252.1 | 1366 | 0.13 | 0.90 | -461.46 | 527.50 |


| $($ Ethnicity $=3) \times($ WQuin $=4)$ | -77.0 | 233.8 | 1366 | -0.33 | 0.74 | -535.70 | 381.67 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $($ Ethnicity $=3) \times($ WQuin $=5)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - | - |
| $($ Ethnicity $=4) \times($ WQuin $=1)$ | 506.6 | 279.4 | 1366 | 1.81 | 0.07 | -41.58 | 1054.71 |
| $($ Ethnicity $=4) \times($ WQuin $=2)$ | 46.2 | 245.5 | 1366 | 0.19 | 0.85 | -435.39 | 527.85 |
| $($ Ethnicity $=4) \times($ WQuin $=3)$ | 149.5 | 300.4 | 1366 | 0.50 | 0.62 | -439.81 | 738.71 |
| $($ Ethnicity $=4) \times($ WQuin $=4)$ | -7.6 | 267.0 | 1366 | -0.03 | 0.98 | -531.36 | 516.22 |
| $($ Ethnicity $=4) \times($ WQuin $=5)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - |  |
| $($ Ethnicity $=5) \times($ WQuin $=1)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - |  |
| $($ Ethnicity $=5) \times($ WQuin $=2)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - |  |
| $($ Ethnicity $=5) \times($ WQuin $=3)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - | - |
| $($ Ethnicity $=5) \times($ WQuin $=4)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - | - |
| $($ Ethnicity $=5) \times($ WQuin $=5)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - |  |
| (Ethnicity $=1) \times($ WIIndex $=1)$ | -412.3 | 244.1 | 1366 | -1.69 | 0.09 | -891.05 | 66.46 |
| $($ Ethnicity $=1) \times($ WIIndex $=2)$ | -97.9 | 163.6 | 1366 | -0.60 | 0.55 | -418.80 | 223.07 |
| $($ Ethnicity $=1) \times($ WIIndex $=3)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - | - |
| $($ Ethnicity $=2) \times($ WIIndex $=1)$ | -450.3 | 244.7 | 1366 | -1.84 | 0.07 | -930.41 | 29.84 |
| $($ Ethnicity $=2) \times($ WIIndex $=2)$ | -205.0 | 163.6 | 1366 | -1.25 | 0.21 | -525.93 | 115.98 |
| $($ Ethnicity $=2) \times($ WIIndex $=3)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - | - |
| $($ Ethnicity $=3) \times($ WIIndex $=1)$ | -437.4 | 250.6 | 1366 | -1.75 | 0.08 | -928.94 | 54.07 |
| $($ Ethnicity $=3) \times($ WIIndex $=2)$ | -155.2 | 171.3 | 1366 | -0.91 | 0.37 | -491.21 | 180.86 |
| $($ Ethnicity $=3) \times($ WIIndex $=3)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - | - |
| $($ Ethnicity $=4) \times($ WIIndex $=1)$ | -668.2 | 295.2 | 1366 | -2.26 | 0.02 | -1247.31 | -89.05 |
| $($ Ethnicity $=4) \times($ WIIndex $=2)$ | -162.5 | 194.3 | 1366 | -0.84 | 0.40 | -543.60 | 218.60 |
| $($ Ethnicity $=4) \times($ WIIndex $=3)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - |  |
| $($ Ethnicity $=5) \times($ WIIndex $=1)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - |  |
| $($ Ethnicity $=5) \times($ WIIndex $=2)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - |  |
| $($ Ethnicity $=5) \times($ WIIndex $=3)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - |  |
| $($ EduHigher $=0) \times($ WQuin $=1)$ | -108.2 | 197.6 | 1366 | -0.55 | 0.58 | -495.80 | 279.49 |
| $($ EduHigher $=0) \times($ WQuin $=2)$ | -1.4 | 185.2 | 1366 | -0.01 | 0.99 | -364.64 | 361.88 |
| $($ EduHigher $=0) \times($ WQuin $=3)$ | -31.6 | 194.6 | 1366 | -0.16 | 0.87 | -413.31 | 350.04 |
| $($ EduHigher $=0) \times($ WQuin $=4)$ | -81.0 | 214.6 | 1366 | -0.38 | 0.71 | -502.03 | 340.11 |
| $($ EduHigher $=0) \times($ WQuin $=5)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - | - |
| $($ EduHigher $=1) \times($ WQuin $=1)$ | -3.1 | 138.1 | 1366 | -0.02 | 0.98 | -274.08 | 267.82 |
| $($ EduHigher $=1) \times($ WQuin $=2)$ | -129.6 | 143.8 | 1366 | -0.90 | 0.37 | -411.74 | 152.56 |
| $($ EduHigher $=1) \times($ WQuin $=3)$ | -154.4 | 131.2 | 1366 | -1.18 | 0.24 | -411.84 | 103.06 |
| $($ EduHigher $=1) \times($ WQuin $=4)$ | 24.4 | 147.0 | 1366 | 0.17 | 0.87 | -264.04 | 312.86 |
| $($ EduHigher $=1) \times($ WQuin $=5)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - | - |
| $($ EduHigher $=2) \times($ WQuin $=1)$ | 110.4 | 78.7 | 1366 | 1.40 | 0.16 | -44.07 | 264.88 |
| $($ EduHigher $=2) \times($ WQuin $=2)$ | 130.4 | 74.7 | 1366 | 1.75 | 0.08 | -16.16 | 276.94 |
| $($ EduHigher $=2) \times($ WQuin $=3)$ | 20.1 | 76.8 | 1366 | 0.26 | 0.79 | -130.63 | 170.86 |
| $($ EduHigher $=2) \times($ WQuin $=4)$ | -1.0 | 78.3 | 1366 | -0.01 | 0.99 | -154.53 | 152.48 |
| $($ EduHigher $=2) \times($ WQuin $=5)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - | - |
| $($ EduHigher $=3) \times($ WQuin $=1)$ | 115.0 | 90.1 | 1366 | 1.28 | 0.20 | -61.63 | 291.71 |
| $($ EduHigher $=3) \times($ WQuin $=2)$ | 173.0 | 90.1 | 1366 | 1.92 | 0.06 | -3.74 | 349.82 |
| $($ EduHigher $=3) \times($ WQuin $=3)$ | 180.8 | 93.2 | 1366 | 1.94 | 0.05 | -2.01 | 363.52 |
| $($ EduHigher $=3) \times($ WQuin $=4)$ | 56.5 | 88.5 | 1366 | 0.64 | 0.52 | -117.09 | 230.08 |
| $($ EduHigher $=3) \times($ WQuin $=5)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - | - |
| $($ EduHigher $=4) \times($ WQuin $=1)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - | - |
| $($ EduHigher $=4) \times($ WQuin $=2)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - | - |
| $($ EduHigher $=4) \times($ WQuin $=3)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - | - |
| $($ EduHigher $=4) \times($ WQuin $=4)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - | - |
| $($ EduHigher $=4) \times($ WQuin $=5)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - | - |
| $($ EduHigher $=0) \times($ WIIndex $=1)$ | -322.3 | 294.4 | 1366 | -1.10 | 0.27 | -899.86 | 255.27 |
| $($ EduHigher $=0) \times($ WIIndex $=2)$ | 59.1 | 138.1 | 1366 | 0.43 | 0.67 | -211.77 | 329.94 |


| $($ EduHigher $=0) \times($ WIIndex $=3)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - | - |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| $($ EduHigher $=1) \times($ WIIndex $=1)$ | -190.1 | 147.0 | 1366 | -1.29 | 0.20 | -478.49 | 98.33 |
| $($ EduHigher $=1) \times($ WIIndex $=2)$ | -7.9 | 93.5 | 1366 | -0.08 | 0.93 | -191.40 | 175.60 |
| $($ EduHigher $=1) \times($ WIIndex $=3)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - | - |
| $($ EduHigher $=2) \times($ WIIndex $=1)$ | 86.5 | 61.6 | 1366 | 1.41 | 0.16 | -34.27 | 207.30 |
| $($ EduHigher $=2) \times($ WIIndex $=2)$ | 130.6 | 59.7 | 1366 | 2.19 | 0.03 | 13.44 | 247.82 |
| $($ EduHigher $=2) \times($ WIIndex $=3)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - | - |
| $($ EduHigher $=3) \times($ WIIndex $=1)$ | 90.8 | 77.1 | 1366 | 1.18 | 0.24 | -60.36 | 242.01 |
| $($ EduHigher $=3) \times($ WIIndex $=2)$ | 139.4 | 64.2 | 1366 | 2.17 | 0.03 | 13.42 | 265.47 |
| $($ EduHigher $=3) \times($ WIIndex $=3)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - | - |
| $($ EduHigher $=4) \times($ WIIndex $=1)$ | $0^{\text {b }}$ | 0.0 | - | - | - | - | - |
| $($ EduHigher $=4) \times($ WIIndex $=2)$ | $0^{\text {b }}$ | 0.0 | - | - | - | - | - |
| $($ EduHigher $=4) \times($ WIIndex $=3)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - | - |
| $($ WQuin $=1) \times($ WIIndex $=1$ ) | -138.0 | 79.4 | 1366 | -1.74 | 0.08 | -293.87 | 17.80 |
| $($ WQuin $=1) \times($ WIIndex $=2$ ) | 76.9 | 77.3 | 1366 | 1.00 | 0.32 | -74.75 | 228.57 |
| $($ WQuin $=1) \times($ WIIndex $=3)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - | - |
| $($ WQuin $=2) \times($ WIIndex $=1)$ | -151.1 | 77.9 | 1366 | -1.94 | 0.05 | -304.01 | 1.74 |
| $($ WQuin $=2) \times($ WIIndex $=2)$ | -14.2 | 75.2 | 1366 | -0.19 | 0.85 | -161.75 | 133.29 |
| $($ WQuin $=2) \times($ WIIndex $=3)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - | - |
| $($ WQuin $=3) \times($ WIIndex $=1)$ | -204.4 | 81.0 | 1366 | -2.52 | 0.01 | -363.27 | -45.46 |
| $($ WQuin $=3) \times($ WIIndex $=2)$ | -36.9 | 75.2 | 1366 | -0.49 | 0.62 | -184.37 | 110.62 |
| $($ WQuin $=3) \times($ WIIndex $=3)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - | - |
| $($ WQuin $=4) \times($ WIIndex $=1$ ) | -80.9 | 80.4 | 1366 | -1.01 | 0.32 | -238.62 | 76.89 |
| $($ WQuin $=4) \times($ WIIndex $=2$ ) | 18.0 | 76.9 | 1366 | 0.23 | 0.82 | -132.86 | 168.77 |
| $($ WQuin $=4) \times($ WIIndex $=3)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - | - |
| $($ WQuin $=5) \times($ WIIndex $=1)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - | - |
| $($ WQuin $=5) \times($ WIIndex $=2)$ | $0{ }^{\text {b }}$ | 0.0 | - | - | - | - | - |
| $($ WQuin $=5) \times($ WIIndex $=3)$ | $0^{\text {b }}$ | 0.0 | - | - | - | - | - |

Table S3. Estimated marginal mean of water treatment with social and economic variables.

| SE Variables | Options | EM Mean | Std. Error | df | 95\% Confidence Interval |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  | Lower Bound | Upper Bound |
| Districts | Kathmandu | 317.7 | 40.00 | 1366 | 239.22 | 396.16 |
|  | Lalitpur | 586.0 | 88.46 | 1366 | 412.51 | 759.56 |
|  | Bhaktapur | 434.0 | 119.79 | 1366 | 199.02 | 669.01 |
| Ethnicity | Brahmin-Chhetri | 467.6 | 63.52 | 1366 | 342.96 | 592.18 |
|  | Newar | 398.5 | 44.13 | 1366 | 311.98 | 485.11 |
|  | Janajati | 453.1 | 72.23 | 1366 | 311.39 | 594.76 |
|  | Teraibasi | 272.7 | 145.20 | 1366 | -12.09 | 557.59 |
|  | Dalit | 739.4 | 167.96 | 1366 | 409.96 | 1068.92 |
| Higher <br> Education | Illiterate | 314.6 | 195.21 | 1366 | -68.39 | 697.50 |
|  | Literate only | 347.6 | 102.60 | 1366 | 146.37 | 548.90 |
|  | Primary \& Sec School | 440.4 | 48.55 | 1366 | 345.11 | 535.60 |
|  | High School Level | 590.9 | 47.74 | 1366 | 497.21 | 684.52 |
|  | University Level | 540.4 | 65.88 | 1366 | 411.18 | 669.64 |
| Wealth Quintile | Poorest | 513.6 | 77.52 | 1366 | 361.54 | 665.67 |
|  | Poor | 359.9 | 93.76 | 1366 | 176.00 | 543.85 |
|  | Middle | 430.4 | 73.60 | 1366 | 286.03 | 574.80 |
|  | Rich | 441.7 | 73.95 | 1366 | 296.60 | 586.72 |
|  | Richest | 488.2 | 73.34 | 1366 | 344.33 | 632.09 |
| WI Index | High | 600.4 | 95.048 | 1366 | 413.95 | 786.87 |
|  | Medium | 417.8 | 70.24 | 1366 | 279.97 | 555.55 |
|  | Low | 322.1 | 59.43 | 1366 | 205.54 | 438.70 |

Table S4. Estimated marginal mean difference among significant pair comparison

| $\begin{gathered} \text { SE } \\ \text { Variables } \end{gathered}$ | Option (I) | Option (J) | Mean <br> Differenc <br> e (I-J) | Std. <br> Error | df | Sig.c | 95\% Confidence Interval for Difference |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  | Lower <br> Bound | Upper <br> Bound |
| District | Lalitpur | Kathmandu | 268.345* | 81.143 | 1366 | 0.003 | 73.85 | 462.839 |
| Education | High school | Primary <br> Secondary school | 150.515 b,c,* | 53.401 | 1366 | 0.049 | 0.373 | 300.658 |
| WI Index | High | Low | 278.291 b,c,* | 96.62 | 1366 | 0.012 | 46.7 | 509.882 |

