Supplement 1: Sampling strategy and sample size considerations for the study

Given that the design and implementation strategy of Project Samuday precluded a cluster-randomized trial design, the next best alternative was determined to be a "difference-in-difference" (DID) design with matching at the gram panchayat level between intervention areas in Hardoi and control areas in the adjacent district of Sitapur. Since the Samuday project intervention is focused on three blocks in Hardoi district, gram panchayats (GPs) from three socio-demographically similar census blocks in the adjacent Sitapur district were selected to serve as controls, separated by a "buffer layer" of census blocks to reduce the possibility of geographic spillover effects.

The intervention census blocks in Hardoi contain an average of 58 gram panchayats (GP), each with a total of 173 GPs in the three blocks (41 in Kachhauna; 71 in Behadar; 61 in Kothwan). The control census block in Sitapur contains an average of 83 GPs, each with a total of 250 GPs in the three blocks. Each GP typically includes one to three villages, which average 300-350 households per village. Each of the 173 GPs in the intervention arm was pair-matched with a comparison GP in the control blocks using a method called "coarsened exact matching" (CEM) in order to maximize the balance of a set of key sociodemographic covariates.

We calculated the sample size required to detect the difference in the difference between intervention and control arm for each of a series of key indicators and achieve 80% power with a type 1 error of 0.05. The sample size incorporates a design effect ranging from 1.7 – 2.2 and a non-response rate of 10 percent. The table below presents sample size scenarios for these indicators, assuming a 6% - 11% difference in the difference between intervention and control arms. This assumes a 10% and 15% difference in indicators for the intervention arm between baseline and end-line, and a 4% difference in indicators for the control arm between the baseline and end line. Thus, for intervention and control areas, a total sample size of 12854 households (3146 in each study arm for each round) was determined to be sufficient to detect a 6% difference in difference in all indicators except for institution delivery in the 24 months before the survey, for which an 11% difference in difference can be detected. All head of households and women 15-49 years old were interviewed, and anthropometric data (weight and height) was collected from children under-five. Based on a crude annual birth rate of 28.1 per 1000 population and a mean household size of 5.5, it was expected that approximately 15016 women aged 15-49 would be interviewed, and 13096 children under the age of five would be measured.

Before conducting the survey, a mapping and listing exercise was conducted in the selected primary sampling units (PSU). During the mapping and listing exercise, the "Right-Hand Rule" was taken after starting from any important landmark of the PSU. From the list of all households, we randomly selected 25 households as the potential list of participants, from where the first 18 households were selected for interview skipping any house where no person is living. In any case, if the household head was absent, the interviewer attempted to complete the interview by returning twice in the same household in the next two days. This comprehensive procedure helped the survey to achieve an overall response rate of over 99%.

Table: 1: sample size considerations for the study

Type of respondent	Indicator	Intervention arm (Baseline prevalence)[3]	Intervention arm (Endline prevalence)	Endline – Baseline difference in control arm	Difference in Difference	Sample size per arm per round (Design effect)	Baseline sample size	Sample size per cluster/GPS
Heads of household	Households with improved sanitation facility	23	33	4	6	3146 (1.7)	6292	18
	Household with any usual member covered by a health scheme or health insurance	5	15	4	6	1239 (1.7)	2478	7
Reproductive age women	With 10 or more years of schooling	20	30	4	6	3754 (2.2)	7508	22
	Participation in women's group	15	25	4	6	3142 (2.2)	6284	18
	Institutional delivery	60	75	4	11	1408 (2.2)	2816	8
Children <5y	Percent wasted (weight for height)	16	26	4	6	3274 (2.2)	6548	19

Supplement 2: Power calculation for assessing the adequacy of the sample

During the baseline evaluation of Project Samuday, 6,218 households participated in the survey with a response rate of >99%. Power analysis is conducted to determine if the sample size of the study if adequate statistical analyses and for appropriate generalization to the population. While the sample size of this study was estimated to detect the changes in several indicators mentioned in the Supplement 1, it is necessary to estimate if we have sufficient power the statistically measure the proportion of the tobacco and generalize the findings.

The following table provides the result of the power analysis, and the estimates were used for the analysis. The result suggested that for all three types of samples – total, men, and women – the analysis will have sufficient power (> 80%) for an estimate of the average proportion of tobacco users in Uttar Pradesh.

Table 2: Power calculation for assessing the adequacy of the sample

Type of sample	Significance (alpha)	Number of Clusters (K)	Average number of respondents (M)	Total Sample Size (N = K × M)	GATS2 reported proportion (m0)	Study reported proportion (ma)	Difference in prevalence (delta = ma – m0)	Study reported intraclass correlation (rho)	power
Total	0.05	346	18	6,228	0.355	0.6246	0.2696	0.03503	1.00
Male	0.05	346	15.4	5,328	0.521	0.7065	0.1855	0.03931	1.00
Female	0.05	309	3	927	0.177	0.1446	-0.03241	0.00	0.8011

Note: The estimates for GATS 2 in Uttar Pradesh: https://tmc.gov.in/images/act/Uttar%20Pradesh%20GATS-2%20Factsheet%20.pdf

Table 3: Stata Code for the Power Calculation:

Type of sample	Stata Code
Total sample	power oneproportion 0.355 0.6246381, k(346) m(18.0) rho(.0350276) table
Male	power oneproportion 0.521 0.7065136, k(346) m(15.4) rho(.0393123) table
Female	power oneproportion 0.177 0.1445916, k(309) m(3) rho(0) table

Supplement 3: Table 4 - Description of the explanatory variables

Variables	Description	Type
	Personal Factors	
Individual demography		
Age	Self-reported age of the respondents	Five: Categories - ≤ 30 years - 31-40 years - 41-50 years - 51-60 years - > 60 years
Gender	Self-reported age of the respondents	Two Categories - Male - Female
Religion	Self-reported religion of the household	Two Categories - Hindu - Muslim and others
Caste	Self-reported social caste of the household	Three Categories - General - ST/SC - OBC and others
Marital Status	Self-reported marital status of the respondent	Three Categories - Never married/Not stated - Married - Widow/Divorced/Separated
Education	Self-reported educational attainment of the respondent	Four Categories - Illiterate - Up to primary (5^{th} grade) - Up to secondary (10^{th} grade) - Above secondary
Occupation	Self-reported occupation of the respondent	Six Categories - Cultivator - Wage laborer - Self-employed & Others - Salaried worker - Housewife - Unemployed
Household size	Self-reported number of a household member living in the house for the last six months	Continuous with three spline terms: - Up to 3 members - Up to 10 members - More than ten members

Variables	Description	Type
Household wealth (assets quintile)	Asset index developed by principal component analysis using 27 binary variables. The variables include information regarding ownership of household assets, house, and land ownership. The standardized score of the first component was used to create five asset quintile groups, where Quintile 1 was assigned to the least wealthy household, and Quintile 5 was assigned to the most wealthy household	Five Categories: From Quintile 1 to 5
Individual personality traits		
Freedom of making decisions	Derived from the question: "How much freedom do you have in making personal decisions?". Two separate categories were developed from the original responses: 1. Low = "No freedom at all," "Freedom in very few decisions," and "Freedom in some decisions." 2. High = "Freedom in most decisions" and "Freedom in all decisions."	Two Categories - Low - High
Satisfaction with life circumstances	Tertile developed from the first component of the principal component analysis using 19 binary variables related to household head's satisfaction towards minimum needs in the following areas: daily food, meals in holidays, clothing, shoes, accommodation, water, electricity, furniture, personal hygiene products, transportation, education etc.	Three Categories - Low - Medium - High
Level of happiness	Derived from the question: "Taking all things together, would you say you are happy, unhappy or neither?". Three separate categories were developed from the original responses: 1. Unhappy = "Very unhappy" and "Somewhat unhappy" 2. Neither happy nor unhappy = Neither happy nor unhappy 3. Happy = "Somewhat happy" and "Very happy"	Three Categories - Unhappy - Neither happy nor unhappy - Happy
Perceived accessibility	Perceived accessibility was measured by household head's self-reported perception of improvement of village infrastructure service: "How has the functioning of infrastructure in your village (e.g., roads, electricity, and water supply) changed since last year?"	3 Categories - Improved - Stayed the same - Worsened
Social Capital		
Individual Level Social Capital		
Twelve modified items of Adapted Social Capital Assessment Tool-India (SASCAT-I)[1,2] reported by 6,218 household heads were used to perform a multilevel Confirmatory factor analysis (MCFA). Four uniquely identified factor emerged from the MCFA model at both individual and the community (PSU level)		
Community engagement	Standardized factor score derived from the MCFA model with three indicators: 1. Group Membership = In the last 12 months, participated in or received any benefit from any community group 2. Collective Action = In the last 12 months, worked together with other community members and attempted to address a problem or common issue of the village 3. Development Discussion = In the past 12 months, spoke with anyone about the development of the village	Binary - Yes - No
Social Support	Standardized factor score derived from the MCFA model with three indicators: 4. Emotional Support = In the last 12 months, received any emotional, social support 5. Financial Support = In the last 12 months, received any financial social support 6. Informational Support = In the last 12 months, received any informational social support	Binary - Yes - No
Trust	Standardized factor score derived from the MCFA model with two indicators: 7. Trust in Leaders = Overall, trust in village leaders 8. Trust in Strangers = Overall, trust in unfamiliar people residing in the village 9. Trust in Neighbors = Overall, trust in village neighbors	3 Categories - No - Sometimes - Yes

Variables	Description	Type
Social cohesion	Standardized factor score derived from the MCFA model with four indicators: 10. Social Harmony = People in this village generally have good relationships with each other 11. Sense of Belonging = Feel that you belong to this village 12. Sense of Fairness = People in this village would try to take advantage of you if they get the chance	3 Categories - No - Sometimes - Yes
Community Level Social Capital		
Community engagement	PSU level standardized factor score derived from level 2 of Multilevel MCFA	Continuous
Social Support	PSU level standardized factor score derived from level 2 of Multilevel MCFA	Continuous
Trust	PSU level standardized factor score derived from level 2 of Multilevel MCFA	Continuous
Social cohesion	PSU level standardized factor score derived from level 2 of Multilevel MCFA	Continuous
Social Environment		
Community demography		
Gram Panchayat Size	Tertile developed based on the population of the gram panchayat reported from 2011 Census of India[3]	3 Categories - Small - Medium Large
Community wealth	Average scores of the first component of principal component analysis from the households of each cluster. The score is standardized for easier interpretation	Continuous
Community health service function	Average cluster score of individual's perceptions on the improvement of community health services	Continuous
Community infrastructure improvement	Average cluster score of individual's perceptions on the improvement of village infrastructure service	Continuous
Community tobacco consumption	Scaled no-self cluster proportion of tobacco use was generated by calculating the proportion of the household heads in the community (PSU) who consumed tobacco while excluding the respondent both from the numerator and denominator and then multiplying the proportion by 10. One unit increase in of this scaled indicator represents a 10% increase in "Non-self" cluster proportion of Tobacco use	Continuous

Note: ST/SC = Scheduled castes and scheduled tribes, OBC = Other backward castes, MCFA= Multilevel confirmatory factor analysis

1 = Hasan, M.Z., Leoutsakos, J.-M., Story, W., Dean, L.T., Rao, K.D., Gupta, S., 2019. Exploration of Factor Structure and Measurement Invariance by Gender for a Modified Shortened Adapted Social Capital Assessment Tool in India. Frontiers in Psychology 10, 2641.

2 = De Silva MJ, Harpham T, Tuan T, Bartolini R, Penny ME, Huttly SR. Psychometric, and cognitive validation of a social capital measurement tool in Peru and Vietnam. Social Science & Medicine. 2006 Feb;62(4):941–53.

3 = Office of the Registrar General & Census Commissioner. States Census 2011 [Internet]. 2011 [cited 2017 Dec 13]. Available from: http://www.census2011.co.in/states.php

Supplement 4: Peer influence of tobacco use measured by non-self cluster proportion of tobacco use

To account for the endogeneity, we created a "non-self cluster proportion of tobacco use" instead of measuring the absolute proportion of tobacco users in the community. Generally, the absolute proportion of tobacco user in the community is measured by:

$$\text{Proportion of tobacco user in a cluster} = \frac{\text{Number of tobacco users in a cluster}}{\text{Total number of respondents in the cluster}}$$

However, for measuring the "non-self cluster proportion," we have to calculate separate scores for each household head based on their smoking status.

If a household head is a tobacco user, then:

$$\text{Non-self score of tobacco use for tobacco user} = \frac{\text{Number of tobacco users in a cluster - 1}}{\text{Total number of respondents in the cluster - 1}}$$

Furthermore, if a household head is not a tobacco user, then:

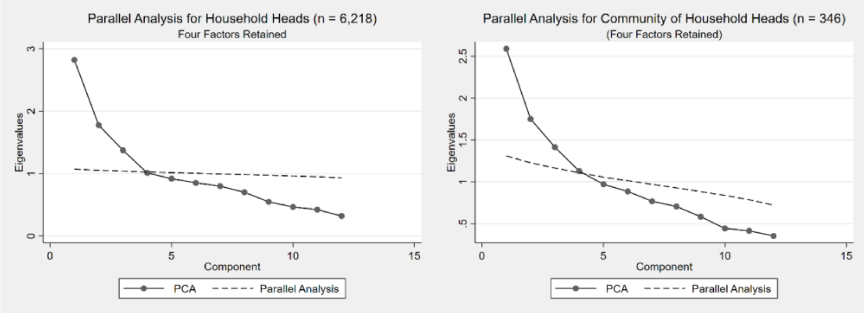
$$\text{Non-self score of not tobacco use for tobacco user} = \frac{\text{Number of tobacco users in a cluster}}{\text{Total number of respondents in the cluster - 1}}$$

Lastly, the score of all household heads (users and non-users) were averaged at the community or PSU level. This alternative calculation of cluster proportion of tobacco use accounts for the contribution of each respondent by excluding their contribution while measuring the proportion.

Supplement 5: Confirmatory factor analysis to generate social capital measures for the household head

Adapted from original SASCAT (De Silva et al., 2006) and SASCAT-B (Story et al., 2015) using rapid cognitive interviewing, the SASCAT-I is a self-reported measure of social (Hasan et al., 2019). The study sample household heads from 6,218 randomly selected households who responded to the SASCAT-I during a community-level multistage cross-sectional survey. To assess the factor structure of social capital, 12 binary items were generated from 13 self-reported questions of SASCAT-I. The first seven questions of the tool are related to structural social capital - Group membership (2 questions), Collective action (2 questions), Social support (3 questions). The last six questions are related to cognitive social capital- Trust (3 questions) and Social Cohesion (3 questions). Four unique factors were identified both at the level of individual household head and at the community (PSU) level during Horn's (1965) parallel analysis.

Figure 1: Scree plots indicating the possible number of factors identified at individual and community level for household heads using SASCAT-I

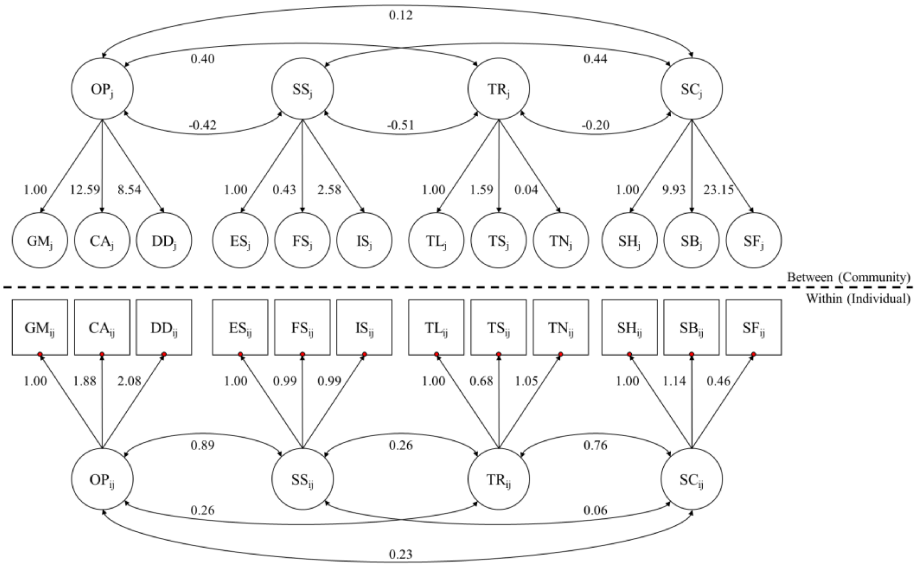


Note: Figures illustrates the expected eigenvalues (the solid line) and parallel analysis (the dotted line).
PCA = Principal Components Analysis

Next, the factor structure of household head's social capital was identified through multilevel exploratory factor analysis using "Weighted Least Square Mean and Variance" (WLSMV) adjusted estimator using a polychoric correlation matrix and holding factor variances fixed to one (Heck and Thomas, 2015). To assess the construct validity of the social capital factor structure and to generate standardized factor scores of each construct of social capital, we

conducted a multilevel confirmatory factor analysis (MCFA), which used "Maximum Likelihood Robust" estimator and polychoric correlation matrix, holding factor variances fixed to one. The model presented an adequate fit with the data with RMSEA= 0.32, CFI = 0.91, TLI = 0.88, SRMR = 0.05, $\chi 2$ value= 715.32, df= 96, p<0.01. Figure 2 presents the path diagram of MCFA with unstandardized factor loadings and inter-factor correlations. Associated factor scores of the eight social capital constructs were extracted from the MCFA and used in the regression models to assess the relationship between each construct of social capital and tobacco use.

Figure 2: Path diagrams presenting unstandardized factor loadings and inter-factor correlations of four-factor multilevel CFA model for household heads in rural Uttar Pradesh (n = 6,218)



Note: *Factors: OP= Organizational participation, SS = Social Support, TR = Trust, SC = Social Cohesion*
Goodness of fit Indices (of the same model estimated by WLSMV): RMSEA= 0.32, CFI = 0.91, TLI = 0.88, SRMR = 0.05, $\chi 2$ value= 715.32, df= 96, p<0.01
GM = Group Membership, CA = Collective Action, DD = Development Discussion, ES = Emotional Support, FS = Financial Support, IS = Informational Support, TS = Trust in Leaders, TS = Trust in Strangers, TS = Trust in Neighbors, SH = Social Harmony, SB = Sense of Belonging, SF = Sense of Fairness

References:

Hasan, M.Z., Leoutsakos, J.-M., Story, W., Dean, L.T., Rao, K.D., Gupta, S., 2019. Exploration of Factor Structure and Measurement Invariance by Gender for a Modified Shortened Adapted Social Capital Assessment Tool in India. Front. Psychol. 10, 2641.

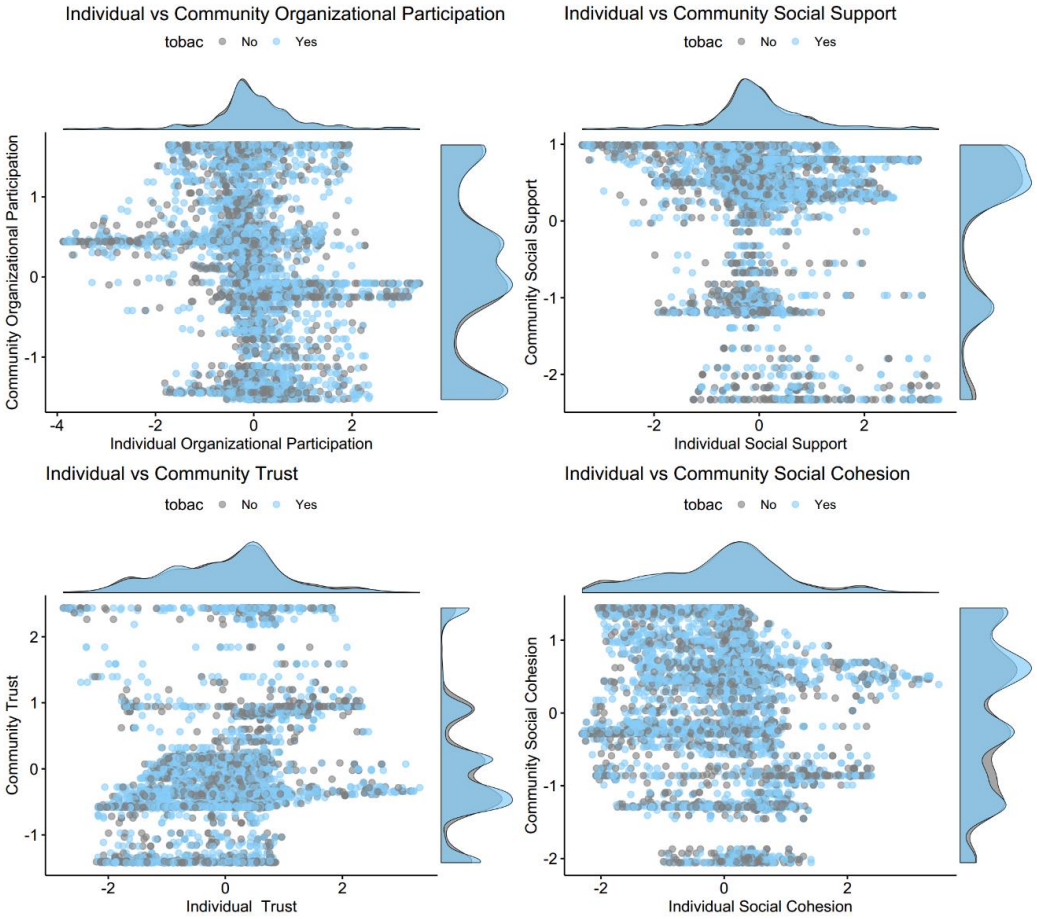
Heck, R.H., Thomas, S.L., 2015. An introduction to multilevel modeling techniques: MLM and SEM approaches using Mplus. Routledge.

Horn, J.L., 1965. A rationale and test for the number of factors in factor analysis. Psychometrika 30, 179–185. https://doi.org/10.1007/BF02289447

Silva, M.J.D., Harpham, T., Tuan, T., Bartolini, R., Penny, M.E., Huttly, S.R., 2006. Psychometric and cognitive validation of a social capital measurement tool in Peru and Vietnam. Soc. Sci. Med. 62, 941–953. https://doi.org/10.1016/j.socscimed.2005.06.050

Story, W.T., Taleb, F., Ahasan, S.M., Ali, N.A., 2015. Validating the Measurement of Social Capital in Bangladesh A Cognitive Approach. Qual. Health Res. 25, 806–819.

Supplement 6: Figure 3 – Distribution of individual and community social capital standardized factor score among household heads based on tobacco consumption status in rural Uttar Pradesh, India (n = 6,218)

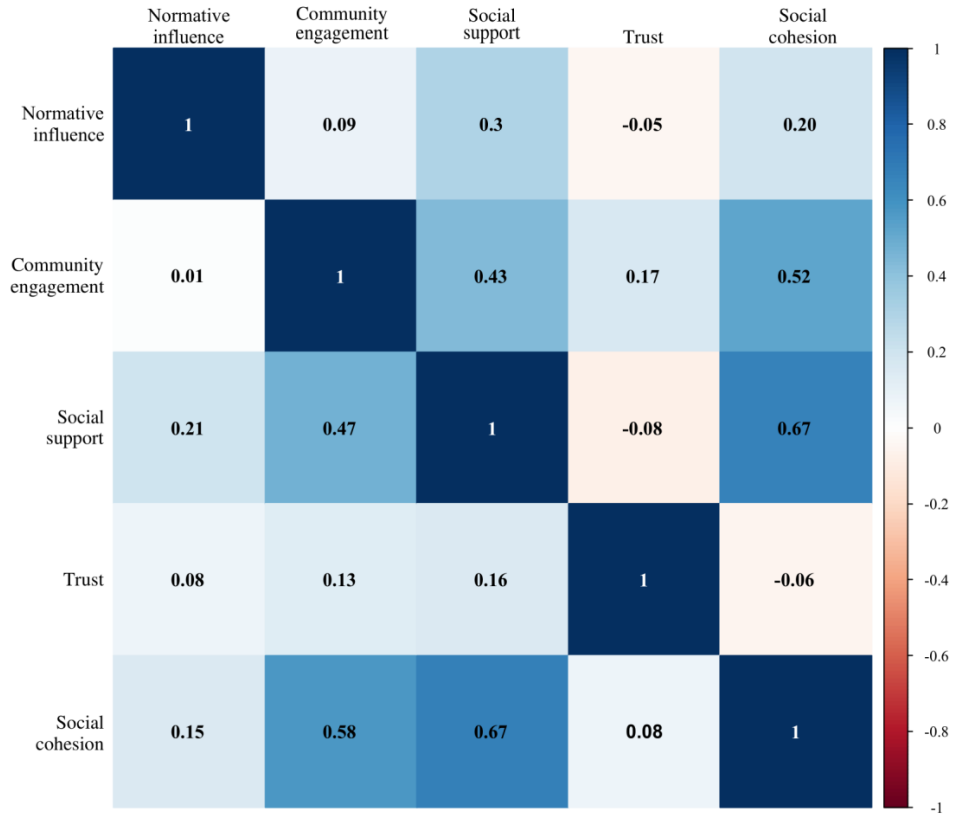


Supplement 7: Bivariate distribution of individual social capital standardized factor score among mem and women household heads in rural Uttar Pradesh, India

Table 5: Bivariate distribution of individual social capital standardized factor score among men and women

	Gender of the respondent			
Individual Social Capital standardized factor score	**Men (n = 5,312)**	**Women (n = 906)**	**P values**	**Total (n = 6,218)**
	Mean	Mean		Mean
Community engagement	0.01	-0.08	0.01	0.00
Social support	0.02	-0.09	0.00	0.00
Trust	-0.01	0.07	0.02	0.00
Social cohesion	-0.01	0.04	0.21	0.00
	Gender of the respondents who consumed tobacco products			
Individual Social Capital standardized factor score	**Men (n = 3,753)**	**Women (n = 131)**	**P values**	**Total (n = 3,884)**
	Mean	Mean		Mean
Community engagement	0.01	0.11	0.28	0.01
Social support	0.01	0.11	0.25	0.01
Trust	-0.01	0.10	0.21	-0.01
Social cohesion	-0.01	0.05	0.52	-0.01

Supplement 8: Figure 4 – Pearson correlation matrix representing the correlation between community-level social capital measures and peer (normative) influence for men (lower triangle) and women (upper triangle)



The highest correlation observed among men was with social Support (Pearson Correlation Coefficient 0.21), whereas, for female household head social cohesion presented the highest correlation with peer influence (Pearson Correlation Coefficient 0.20). The intracluster correlation (ICC) for the total sample was 0.04, indicating only 4% of the overall variability of tobacco consumption was attributed to the similarity within the community.

Supplement 9: Tabel 6 - Sensitivity analysis – Comparison of multivariate odds ratios using "non-self cluster proportion" and "simple cluster proportion" of tobacco use among male household heads estimated by generalized estimating equation logistic regression in rural Uttar Pradesh, India (N= 5,312)

Explanatory Variables	Adjusted model with non-self cluster proportion		Adjusted model with simple cluster proportion	
	AOR	**95% CI**	**AOR**	**95% CI**
Individual Demography				
Age categories (Ref: 18-29 Years)				
31-40 years	1.34**	(1.09, 1.63)	1.35**	(1.09, 1.65)
41-50 years	1.15	(0.95, 1.39)	1.17	(0.96, 1.43)
51-60 years	0.96	(0.77, 1.19)	0.99	(0.79, 1.23)
61 years and above	0.69**	(0.54, 0.87)	0.70**	(0.55, 0.89)
Marital Status (Ref- Married)				
Never married/Not stated	0.75	(0.52, 1.09)	0.74	(0.51, 1.07)
Widow/Separated	0.91	(0.69, 1.20)	0.92	(0.70, 1.22)
Caste (Ref- General)				
ST/SC	1.12	(0.95, 1.33)	1.07	(0.91, 1.27)
OBC and others	1.06	(0.90, 1.26)	1.00	(0.84, 1.18)
Education (Ref-Illiterate)				
Up to primary	0.80*	(0.68, 0.95)	0.83*	(0.70, 0.99)
Secondary	0.57***	(0.47, 0.68)	0.58***	(0.48, 0.69)
Above secondary	0.30***	(0.24, 0.38)	0.31***	(0.24, 0.39)
Occupation (Ref- Cultivator)				
Wage laborer	0.92	(0.79, 1.08)	1.00	(0.85, 1.16)
Self-employed & Others	0.98	(0.78, 1.23)	1.02	(0.81, 1.29)
Salaried worker	0.78	(0.56, 1.08)	0.77	(0.54, 1.10)
Unemployed	0.80	(0.58, 1.09)	0.77	(0.56, 1.07)
Household Wealth (Ref- Quintile 1)				
Quintile 2	0.98	(0.79, 1.20)	1.01	(0.81, 1.24)
Quintile 3	1.02	(0.81, 1.26)	1.04	(0.83, 1.30)
Quintile 4	0.99	(0.78, 1.23)	1.00	(0.80, 1.26)
Quintile 5	0.88	(0.69, 1.13)	0.89	(0.70, 1.14)
Household Size (Ref- Small: up to 5 Member)				
Large (>5 Members)	1.02	(0.88, 1.16)	1.00	(0.87, 1.16)
Individual Personality Attributes				
Satisfaction with life circumstances (Ref- Low)				
Medium	1.02	(0.86, 1.21)	1.00	(0.85, 1.18)
High	0.95	(0.80, 1.14)	0.92	(0.77, 1.09)
Level of happiness (Ref- Unhappy)				
Neither happy nor unhappy	0.78**	(0.65, 0.94)	0.80*	(0.67, 0.96)
Happy	0.82*	(0.69, 0.97)	0.85	(0.72, 1.01)
Perceived accessibility (Ref- Worsened)				
Stayed the same	1.57***	(1.32, 1.88)	1.55***	(1.30, 1.85)
Improved	1.66***	(1.35, 2.04)	1.68***	(1.37, 2.05)
Community Social capital				
Social Support	1.02	(0.95, 1.08)	0.91***	(0.87, 0.95)
Trust	1.03	(0.97, 1.09)	0.99	(0.95, 1.03)
Peer influence				
Tobacco consumption in the community				
Non-self cluster proportion	1.10***	(1.05, 1.16)		
Simple cluster proportion			1.58***	(1.53, 1.62)
Community demography				
Community wealth	0.99	(0.92, 1.07)	1.07*	(1.01, 1.13)
Census blocks (Ref- Behadar)				
Kachhauna	0.96	(0.77, 1.18)	0.96	(0.82, 1.11)
Kothwan	1.08	(0.88, 1.31)	0.98	(0.86, 1.11)
Kasmanda	1.21	(0.96, 1.51)	1.09	(0.94, 1.26)
Machhrehta	0.91	(0.74, 1.12)	1.01	(0.88, 1.15)
Sidhauli	0.91	(0.75, 1.10)	0.94	(0.82, 1.07)
Observations	5312		5312	

Note: AOR = Adjusted odds ratio, COR = Crude or unadjusted odds ratio, ST/SC = Scheduled castes and scheduled tribes, OBC = Other backward castes

Supplement 10: Table 7- Sensitivity analysis – Comparison of multivariate odds ratios using "non-self cluster proportion" and "simple cluster proportion" of tobacco use among female household heads estimated by generalized estimating equation logistic regression in rural Uttar Pradesh, India (N= 906)

Explanatory Variables	Adjusted model with non-self cluster proportion		Adjusted model with simple cluster proportion	
	AOR	**95% CI**	**AOR**	**95% CI**
Individual Demography				
Religion (Ref- Hindu)				
Muslim and others	2.05**	(1.21, 3.49)	2.16**	(1.29, 3.63)
Caste (Ref- General)				
ST/SC	0.52*	(0.31, 0.87)	0.52*	(0.31, 0.88)
OBC and others	0.75	(0.45, 1.24)	0.75	(0.45, 1.25)
Household Wealth (Ref- Quintile 1)				
Quintile 2	0.76	(0.45, 1.30)	0.75	(0.44, 1.29)
Quintile 3	0.60	(0.33, 1.09)	0.62	(0.33, 1.14)
Quintile 4	0.45*	(0.24, 0.86)	0.49*	(0.26, 0.90)
Quintile 5	0.74	(0.40, 1.37)	0.76	(0.42, 1.38)
Household Size (Ref- Small: up to 5 Member)				
Large (>5 Members)	1.60*	(1.04, 2.48)	1.55*	(1.00, 2.40)
Individual Personality Attributes				
Satisfaction with life circumstances (Ref- Low)				
Medium	0.69	(0.43, 1.08)	0.67	(0.42, 1.07)
High	0.87	(0.49, 1.53)	0.85	(0.49, 1.45)
Individual social capital				
Community engagement	1.34**	(1.08, 1.67)	1.32*	(1.05, 1.66)
Community social capital				
Community engagement	1.18	(0.93, 1.51)	1.24	(0.98, 1.57)
Social support	1.16	(0.90, 1.51)	0.99	(0.77, 1.28)
Trust	0.99	(0.78, 1.26)	0.99	(0.79, 1.24)
Social cohesion	1.13	(0.84, 1.51)	1.11	(0.83, 1.47)
Peer influence				
Tobacco consumption in the community				
Non-self cluster proportion	0.97	(0.85, 1.11)		
Simple cluster proportions			1.37***	(1.17, 1.60)
Community demography				
Community size (Ref- Small)				
Medium	1.23	(0.78, 1.95)	1.31	(0.84, 2.04)
Large	0.85	(0.54, 1.36)	0.93	(0.59, 1.48)
Observations	906		906	

Note: The estimates of the adjusted model with non-self cluster proportions will not match Table 4. Whereas, Tabel 4 did not include the non-self cluster proportion as it was not significant in the unadjusted model. However, in this sensitivity analysis, we have included the non-self cluster proportion variable in this model for comparing it with a simple cluster proportion.
AOR = Adjusted odds ratio, COR = Crude or unadjusted odds ratio, ST/SC = Scheduled castes and scheduled tribes, OBC = Other backward castes

Supplement 11: Table 8 - Sensitivity analysis – Comparison between the odds ratio and prevalence ratio of tobacco use among male household heads estimated by generalized estimating equation rural Uttar Pradesh, India (N= 5,312)

Explanatory Variables	Adjusted model with odds ratio		Adjusted model with prevalence ratio	
	AOR	95% CI	APR	95% CI
Individual Demography				
Age categories (Ref: 18-29 Years)				
31-40 years	1.34**	(1.09, 1.63)	1.07*	(1.01, 1.12)
41-50 years	1.15	(0.95, 1.39)	1.03	(0.98, 1.09)
51-60 years	0.96	(0.77, 1.19)	0.99	(0.93, 1.05)
61 years and above	0.69**	(0.54, 0.87)	0.89**	(0.83, 0.96)
Marital Status (Ref- Married)				
Never married/Not stated	0.75	(0.52, 1.09)	0.94	(0.84, 1.05)
Widow/Separated	0.91	(0.69, 1.20)	0.96	(0.89, 1.04)
Caste (Ref- General)				
ST/SC	1.12	(0.95, 1.33)	1.04	(0.99, 1.09)
OBC and others	1.06	(0.90, 1.26)	1.03	(0.98, 1.08)
Education (Ref-Illiterate)				
Up to primary	0.80*	(0.68, 0.95)	0.95*	(0.92, 0.99)
Secondary	0.57***	(0.47, 0.68)	0.86***	(0.83, 0.90)
Above secondary	0.30***	(0.24, 0.38)	0.66***	(0.60, 0.73)
Occupation (Ref- Cultivator)				
Wage laborer	0.92	(0.79, 1.08)	0.98	(0.94, 1.01)
Self-employed & Others	0.98	(0.78, 1.23)	0.99	(0.93, 1.05)
Salaried worker	0.78	(0.56, 1.08)	0.92	(0.82, 1.04)
Unemployed	0.80	(0.58, 1.09)	0.95	(0.86, 1.05)
Household Wealth (Ref- Quintile 1)				
Quintile 2	0.97	(0.79, 1.20)	0.99	(0.94, 1.04)
Quintile 3	1.02	(0.81, 1.26)	1.00	(0.95, 1.06)
Quintile 4	0.99	(0.78, 1.23)	0.99	(0.94, 1.05)
Quintile 5	0.89	(0.69, 1.13)	0.95	(0.89, 1.02)
Household Size (Ref- Small: up to 5 Member)				
Large (>5 Members)	1.02	(0.88, 1.16)	1.00	(0.96, 1.03)
Individual Personality Attributes				
Satisfaction with life circumstances (Ref- Low)				
Medium	1.02	(0.86, 1.21)	1.01	(0.97, 1.05)
High	0.95	(0.80, 1.14)	0.99	(0.94, 1.03)
Level of happiness (Ref- Unhappy)				
Neither happy nor unhappy	0.78**	(0.65, 0.94)	0.94**	(0.90, 0.98)
Happy	0.82*	(0.69, 0.97)	0.95*	(0.91, 0.99)
Perceived accessibility (Ref- Worsened)				
Stayed the same	1.57***	(1.32, 1.88)	1.14***	(1.08, 1.21)
Improved	1.66***	(1.35, 2.04)	1.16***	(1.09, 1.23)
Community Social capital				
Social Support	1.02	(0.95, 1.08)	1.00	(0.99, 1.02)
Trust	1.03	(0.97, 1.09)	1.01	(0.99, 1.02)
Peer influence				
Tobacco consumption in the community	1.10***	(1.05, 1.16)	1.03***	(1.01, 1.04)
Community demography				
Community wealth	0.99	(0.92, 1.07)	1.00	(0.98, 1.02)
Census blocks (Ref- Behadar)				
Kachhauna	0.96	(0.77, 1.18)	0.98	(0.93, 1.04)
Kothwan	1.08	(0.88, 1.31)	1.01	(0.97, 1.07)
Kasmanda	1.21	(0.96, 1.51)	1.04	(0.99, 1.10)
Machhrehta	0.91	(0.74, 1.12)	0.98	(0.92, 1.04)
Sidhauli	0.91	(0.75, 1.10)	0.98	(0.93, 1.04)
Observations	5312		5312	

Note: Note: AOR = Adjusted odds ratio, APR = Adjusted prevalence ratio, ST/SC = Scheduled castes and scheduled tribes, OBC = Other backward castes

Supplement 12: Table 9 - Sensitivity analysis – Comparison between the odds ratio and prevalence ratio of tobacco use among female household heads estimated by generalized estimating equation rural Uttar Pradesh, India (N= 906)

Explanatory Variables	Adjusted model with odds ratio		Adjusted model with prevalence ratio	
	AOR	95% CI	APR	95% CI
Individual Demography				
Religion (Ref- Hindu)				
Muslim and others	2.17**	(1.26, 3.72)	1.85**	(1.18, 2.91)
Caste (Ref- General)				
ST/SC	0.53*	(0.31, 0.89)	0.70	(0.41, 1.17)
OBC and others	0.78	(0.47, 1.30)	0.95	(0.62, 1.45)
Household Wealth (Ref- Quintile 1)				
Quintile 2	0.75	(0.44, 1.28)	0.87	(0.54, 1.40)
Quintile 3	0.57	(0.31, 1.05)	0.70	(0.37, 1.31)
Quintile 4	0.43*	(0.23, 0.82)	0.62	(0.27, 1.42)
Quintile 5	0.70	(0.37, 1.31)	0.98	(0.55, 1.74)
Household Size (Ref- Small: up to 5 Member)				
Large (>5 Members)	1.60*	(1.03, 2.48)	1.39	(0.80, 2.41)
Individual Personality Attributes				
Satisfaction with life circumstances (Ref- Low)				
Medium	0.64	(0.40, 1.01)	0.71	(0.44, 1.16)
High	0.80	(0.45, 1.42)	0.78	(0.40, 1.51)
Individual social capital				
Community engagement	1.33*	(1.07, 1.66)	1.34*	(1.03, 1.73)
Community social capital				
Community engagement	1.18	(0.93, 1.50)	1.10	(0.89, 1.37)
Social support	1.12	(0.86, 1.46)	1.22	(0.94, 1.59)
Trust	0.95	(0.75, 1.22)	0.86	(0.66, 1.11)
Social cohesion	1.15	(0.86, 1.54)	1.09	(0.82, 1.44)
Community demography				
Community size (Ref- Small)				
Medium	1.20	(0.75, 1.92)	1.26	(0.75, 2.11)
Large	0.89	(0.56, 1.41)	0.91	(0.55, 1.49)
Observations	906		906	

Note: AOR = Adjusted odds ratio, APR = Adjusted prevalence ratio, ST/SC = Scheduled castes and scheduled tribes, OBC = Other backward castes