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# Results from the Field: Forced Labor in the Brick Kiln Industry in Pakistan

Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, USA

in collaboration with

the Aga Khan University, Karachi, Pakistan

and the Society for the Protection of the Rights of the Child, Pakistan

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Center on Human Trafficking  
Research & Outreach  
*School of Social Work*  
UNIVERSITY OF GEORGIA



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*of* PUBLIC HEALTH



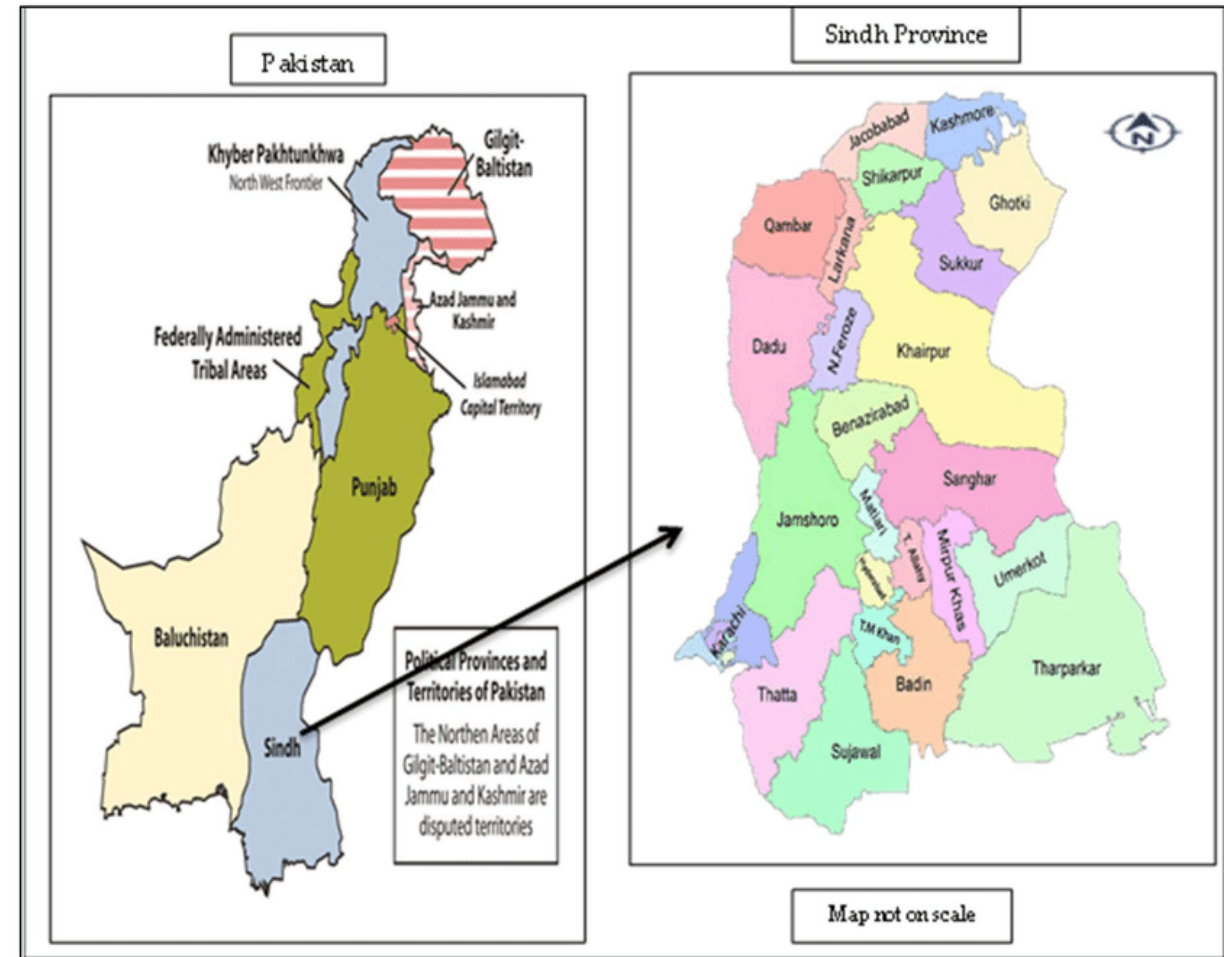
THE AGA KHAN UNIVERSITY

# Overview

- Background & Context
- Methods: Study Design, Sampling, Field Work
- Findings: Pre-Flood (Qualitative)
- Impact of Floods
- Modified Study Design
- Findings: Pre-Flood (Qualitative)
- Findings: Prevalence Estimates
- Findings: Trafficking Risk Factors
- Implications for Programming and Recommendations for Future Prevalence Studies
- Intervention Evaluation: Methods
- Next Steps

# Background and Context

- Estimated 3.2 million “victims of modern slavery” in Pakistan with 2.1 million working as bonded laborers (Global Slavery Index)
- Over 20,000 brick kilns across the country with over 4.5 million brick kiln workers. Over 90% of brick kiln workers are estimated to have taken a loan (“*peshgi*”) or advance payment
- The bonded labor system is deeply rooted within the industry due to feudal practices that prevail in many rural areas of Pakistan . The system particularly impacts vulnerable populations including migrants, poor, religious minorities (Hindus), and/or people belonging to a low socio-economic status and/or caste



# Mixed Methods Study Design

**Qualitative Research**  
Community Mapping

**Qualitative Research  
(Pre-Flood)**

Key Informant and  
In-depth Interviews

**Qualitative Research  
(Post-Flood)**

Flood Impact  
Assessments

**Quantitative  
Research**

Household Survey  
(with flood impact  
module)

- Phase 1: Qualitative Research (August – November 2021)
  - Community mapping followed by In-depth Interviews (IDIs) with brick kiln workers and Key Informant Interviews (KIIs) with stakeholders from the community
- Phase 1a: Flood Impact Assessment (November - December 2022)
  - IDIs with brick kiln workers and KIIs with local disaster management authorities, service providers, and brick kiln owners supplemented by damage assessments
- Phase 2: Quantitative Research (January – March 2023)
  - Interviews with adults and children employed in brick kilns in 8 selected districts in Sindh, Pakistan
  - Two sampling methodologies—Multi-stage Cluster Random Sampling with Probability Proportional to Size (PPS) and Respondent Driven Sampling (RDS)—were selected to estimate prevalence of forced labor



*Note: A series of Network Scale-Up Method (NSUM) questions were included in the RDS survey but not the PPS survey*

# Qualitative Research Findings (Pre-Floods)

## Situating Brick Kilns

- Located in isolated areas
- Largely unregulated
- Involve work that is mostly done manually with no mechanization
- Hierarchical structure with a high degree of labour specialization

## Characteristics of Workers

- Belong to landless minorities
- Stay on-site
- Deprived of government services
- Caste as an organizing principle
- Alternate as agricultural workers

## Drivers of Debt & Bondage

- Loans for illnesses and life events
- Low profit margins
- Hierarchical employment and enforcement structures
- Lower wages for workers staying on-site
- Exploitation of labor by owners due to lack of literacy and accounting skills and transgenerational consequences

## Health Implications

- Transmission of diseases due to workers residing in inadequate accommodations, with poor sanitation and lack of clean water in addition to the pollution
- Sexual violence due to disproportionate power dynamics
- Limited access to proper healthcare services

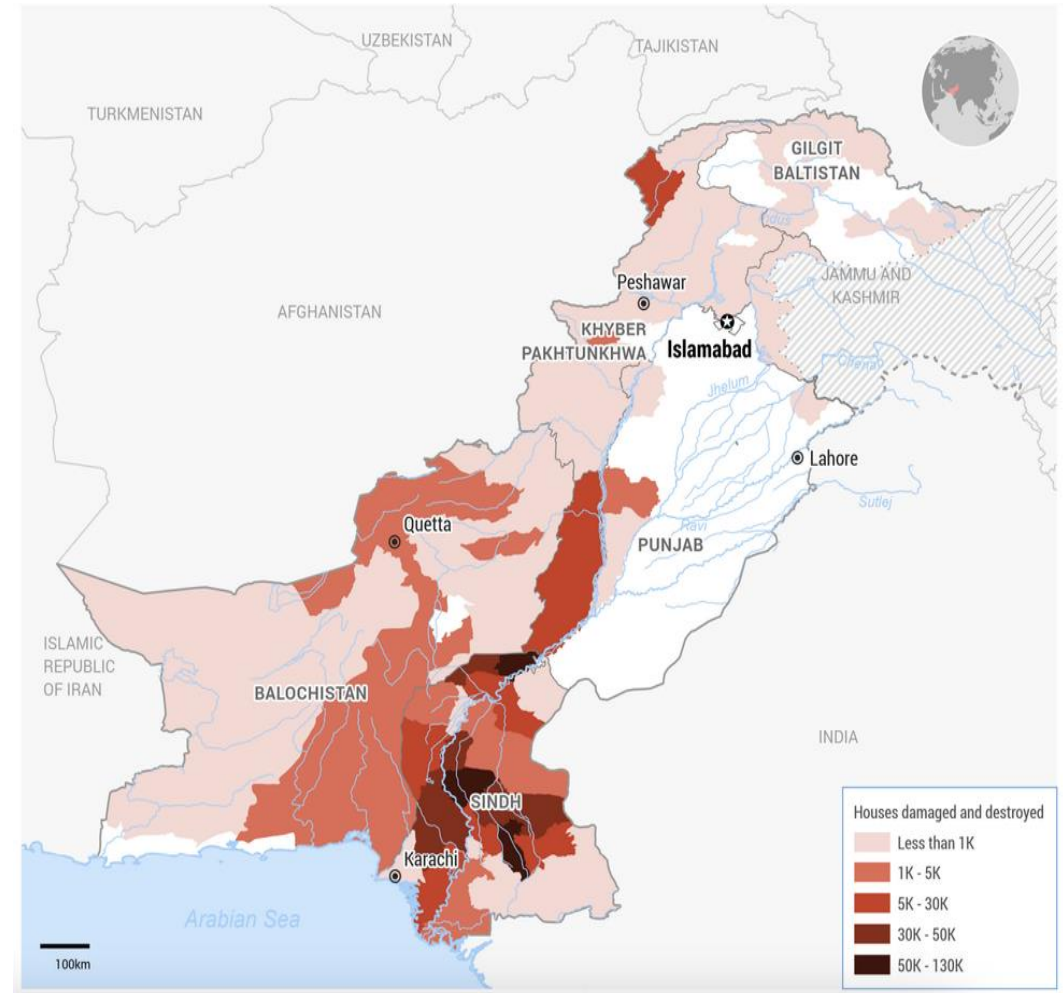
## Policies and Organizations

- Limited implementation of various existing laws including the Sindh Factories Act, Bonded Labour Act of 1992, and Child Labour Legislation
- Lack of monitoring by labor inspectors etc. due to lack of funds and corruption/collusion with owners

# Pakistan “Super Floods”, June – Sept. 2022: Overview

- Approximately 33 million people affected with over 1,550 deaths including at least 550 children
- More than 6.4 million people in need of immediate humanitarian aid including at least 650,000 pregnant women and 3.4 million children
- Sindh is the most-affected province with 724 deaths and 8,422 injuries. More than 56% of the total population displaced and forced to camp without adequate shelter
- All eight districts selected for the baseline study and the intervention study have been affected by the ongoing floods
- Severity attributed to climate change (World Weather Attribution, National Disaster Management Authority)

Flood Impacts by Province and District in Pakistan



# Flood Damage in Eight Districts in Sindh

	<u>Mirpurkhas</u>	Hyderabad	Sanghar	<u>Umerkot</u>	<u>Tharparkar</u>	Badin	<u>Tando Allah yar</u>	<u>Matyari</u>
<b>Affected Area</b>	50-UCs	160-Ucs	73-UCs	42-UCs	3-UCs	68-UCs	28-UCs	30-UCs
<b>Rainfall</b>	429 mm	490 mm	716 mm	757 mm	386 mm	55,551	20,723	26,63
<b>Affected People</b>	925,880	30,240	1,292,603	557,280	35,047	277,502	104,,630	13587
<b>Displaced People</b>	472,168	33,700	315,444	557,280	19,318	103,093	27,377	51,000
<b>Houses Damaged</b>	43,358	2,440	20,897	61,725	94	18,539	33,65	3,479
<b>Loss of Agriculture (acres)</b>	169,353	61,465	310,039	88,885	4,082	226,044	114,900	137,268
<b>Loss of Livestock</b>	2,403	3,124	9,925	3,133	1,248	9,025	2,610	3,141
<b>Relief Camps</b>	35	29	151	17	-	-	35	73
<b>People in Camps</b>	34,428	6,530	31,483	2,970	-	31,483	34,428	1,3587
<b>Death Toll</b>	14	8	22	5	8	25	13	10
<b>Persons Injured</b>	14	1	15	2	10	03	-	104

Losses reported through Provincial Disaster Management Authority (as of September 19, 2022)

# Flood Damage in Eight Districts in Sindh



*Damage to  
Brick Kilns  
and Worker  
Residences in  
MirpurKhas,  
Sanghar,  
Tando  
AllahYar and  
Umerkot  
Districts*



# Flood Relief Efforts

- UGA allocated \$10,000 for direct flood relief; medical camps were conducted by AKU and food baskets were distributed among vulnerable families in implementation districts by SPARC



*Medical Camp in Tando Bago Road, Badin District*



*Food Basket Distribution in MirpurKhas, Badin and Mithi Districts*



*Medical Camp at Shedadpur Road, Sanghar District*



*Food Basket Distribution in Hyderabad District*

# Modified Study Design: Qualitative and Quantitative

Qualitative Research  
Community Mapping

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(Pre-Flood)  
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In-depth Interviews

Qualitative Research  
(Post-Flood)  
Flood Impact  
Assessments

Quantitative  
Research  
Household Survey  
(with flood impact  
module)

## ➤ ***Qualitative Research (Post-Flood): Flood Impact Assessment***

- 48 In-depth Interviews (IDIs) with brick kiln workers and 24 Key Informant Interviews (KIIs) with local disaster management authorities, service providers, and brick kiln owners. IRB approval in November 2022, field work in Nov-Dec 2022
- Damage Assessments: Site visits to selected kilns and worker residential areas (including IDP settlements) were conducted by SPARC to assess damage and displacement patterns in addition to stakeholder meetings with concerned personnel to inform flood module and the quantitative survey. Damage assessments and meetings in Dec 2022 and Jan 2023

# Modified Study Design: Qualitative and Quantitative

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Quantitative  
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Household Survey  
(with flood impact  
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## ➤ ***Quantitative Research (Post-Flood): Flood Impact Assessment***

- Developed a 30-question flood impact module for the quantitative survey, including questions on possible previous disaster experiences in the last 10 years, and the impact of the recent floods on family living conditions, work, health, access to services, impacts on income, assets and debt. IRB approval was given in January 2023 and interviews conducted following a refresher training for enumerators
- This module is included in all interviews (adults and children, RDS and PPS surveys) and will enable us to examine issues of forced labor in light of current flood impacts (and earlier experiences of disasters) and identify possible areas for intervention

# Qualitative Research Findings (Post-Floods)

## Changes in Demographics and Living Conditions

- Loss of property, assets, and livestock
- Loss of identification documents limited access to government aid
- Severe damage to infrastructure
- Temporary migration to other districts and province with no evidence of trafficking

## Changes in Labor Conditions

- Workers out of work for 4-5 months
- Alternate source of income
- Restrictions imposed by owners on workers' movement
- Varied work hours and increased demand
- Reduction in salaries due to rise in debts

## Health Impacts

- Common diseases like fever, cold, skin diseases and symptoms of gastritis
- Complications and death due to lack of timely provision of health care services
- Accumulation in debt due to out-of-pocket payment
- Limited access to health camps by NGOs

## Debt Accumulation

- Workers appreciated owners' kindness for lending money during difficult times but worried about debts accumulating up to 500,000 PKR
- Indebted families suffered from restrictions on movement, forcing them to camp on roads and highways that were not submerged by the floodwaters
- Lack of access to humanitarian aid distributed by the government and other agencies

## Impact on Brick Kiln Owners and Industry

- Majority of the brick kilns remained submerged for extended periods, which damaged their foundations as well as the raw materials available
- Some kilns suffered from severe structural damages that are being repaired by the owners gradually



# Multi-Stage, Cluster Random Sampling with Probability Proportional to Size (PPS)

- Eight districts comprising 631 kilns were purposively selected, using community mapping data from Phase 1 (Table)
- 80 brick kilns randomly selected in the selected districts, proportionate to the size of kiln (i.e., total number of workers)
- 10 households interviewed at each site (post-sample weighting was applied to adjust for this “quota” sample at each kiln)
- One member in each household invited to participate

**Table: Characteristics of the Selected Districts for PPS and RDS**

District	Total population <sup>1</sup>	No. of brick kilns <sup>2</sup>	Brick kiln worker population <sup>2</sup>	Education <sup>3</sup>		UHC index <sup>4</sup>	% of household belonged to poorest/poor/middle <sup>2</sup>
				Male %	Female %		
Badin	1,106,272	115	6,464	33	17	36	95
Hyderabad	1,494,866	74	18,624	65	56	56	27
Matiari	494,244	72	3,525	50	24	43	84
Mirpur Khas	1,006,329	86	12,196	59	31	40	74
Mithi (Tharparkar)	914,291	47	6,120	52	14	28	99
Sanghar	1,319,881	85	10,104	47	19	41	90
Tando Allahyar	493,526	64	3,951	49	24	40	81
Umerkot	664,797	88	18,577	42	11	34	97

<sup>1</sup> 2017 National Census of Pakistan

<sup>2</sup> Mapping of Brick kilns conducted by AKU during the formative phase

<sup>3</sup> Multiple Indicator Cluster Survey Report (latest)

<sup>4</sup> Monitoring of Universal Health Coverage (2022)

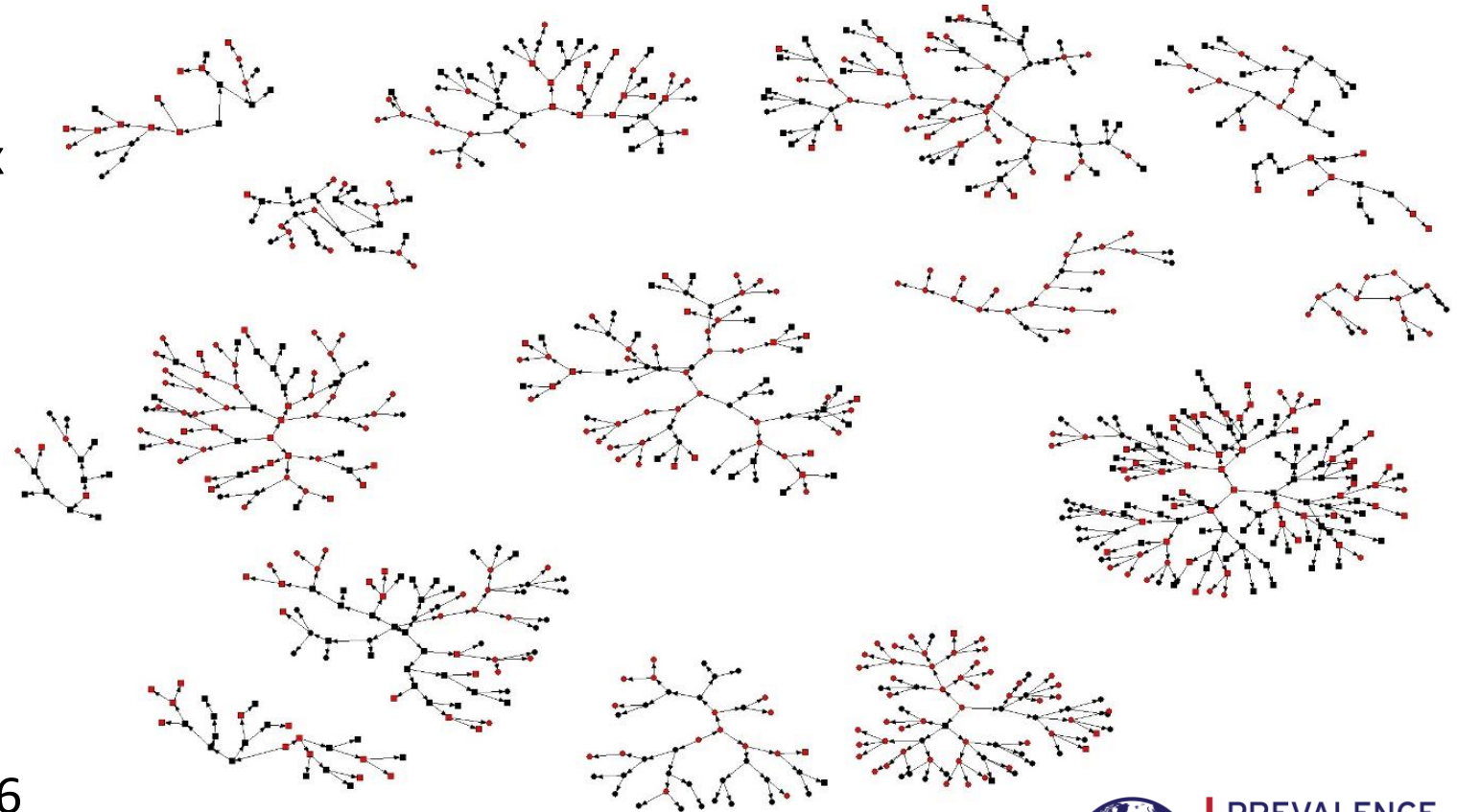
UHC stands for Universal Health Coverage

# Respondent Driven Sampling (RDS)

- Chain referral sampling method typically used for hard-to-reach populations
- Two seeds (1 male and 1 female) identified purposively per district (x 8 districts)
- Coupon distribution: 3 per participant, later reduced to 2 due to a high response rate
- Peer referral process continues in waves until target sample size is attained
- The maximum and average recruitment depth per seed: 7 and 6 waves, respectively

## RDS Network Graph

Note: nodes colored by whether a participant met at least one PRIF threshold: red=yes; black=no



# RDS and PPS Surveys: Kiln Worker Characteristics

- Kiln workers had generally low SES:
  - Over 90% reported no formal education
  - 2/3 had incomes that were classified as the “poorest”, according to national wealth quintiles.
  - Remainder classified as “poor”
- By sampling methodology:
  - Similar on most demographic characteristics (SES)
  - Differed in marital status and place of residence

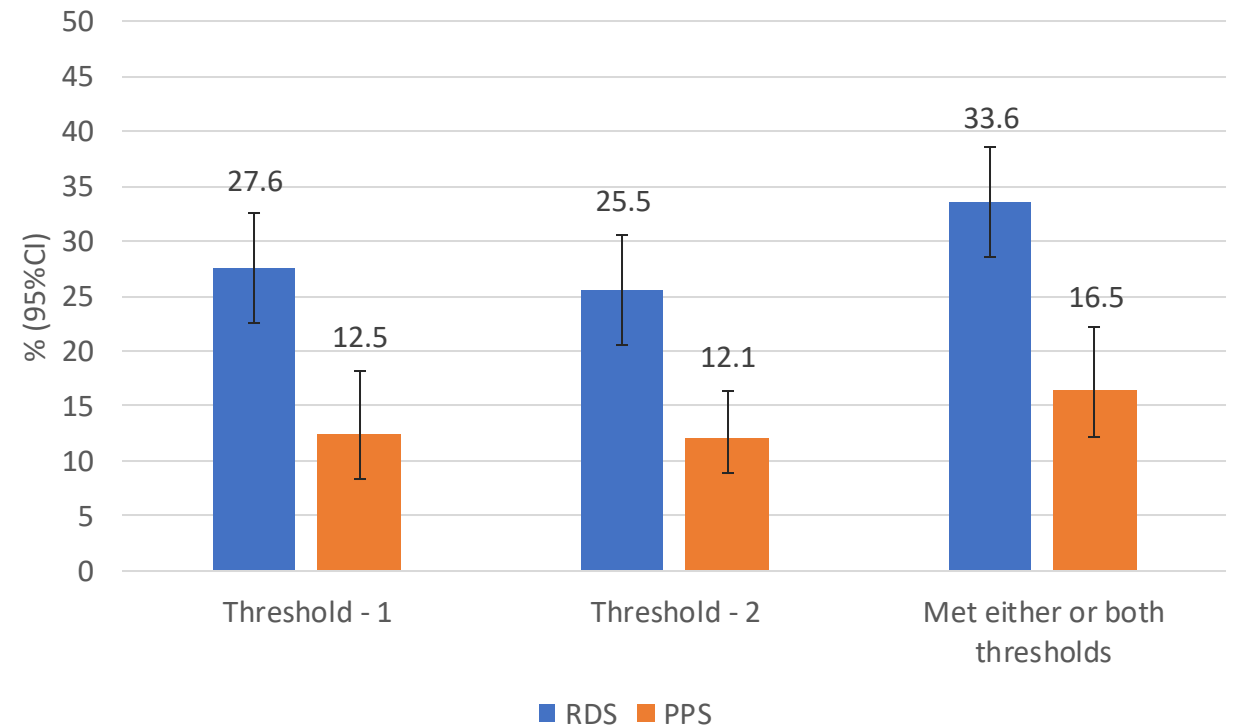
Respondent characteristics	Sampling Method	
	RDS population estimate N=800	PPS population estimate N=800
	% (95%CI)	% (95%CI)
<b>Sex</b>		
Male	49.9 (44.2-55.6)	56.0 (50.5-61.2)
Female	50.1 (44.4-55.8)	44.0 (38.7-49.5)
<b>Marital status*</b>		
Married	89.7 (85.6-92.6)	78.6 (76.1-81.0)
Single	7.0 (4.6-10.4)	18.0 (16.1-20.1)
Widow/divorced/ separated	3.4 (1.8-6.4)	3.3 (2.2-4.9)
<b>Education status</b>		
No formal education	91.2 (88.0-93.6)	92.0 (89.2-94.2)
Any formal education	8.8 (6.4-12.0)	7.9 (5.8-10.8)
Mean duration of current employment (years)	5.7 (5.2-6.2)	6.0 (5.4-6.7)
<b>Place of residence*</b>		
Live outside kiln area	23.6 (19.0-29.0)	6.0 (3.0-11.8)
Live onsite kiln	76.4 (71.0-81.0)	94.0 (88.1-97.0)

\* Statistical difference determined by non-overlapping 95%CI confidence intervals of population estimates for each item

# Prevalence Estimates of Forced Labor, RDS vs. PPS

- RDS estimates were higher than PPS for the following domains:
  - Recruitment into forced labor (17.9% vs. 4.4%)
  - Employment practices and penalties (28.4% vs. 7.6%)
  - Violence and threats of violence (14.2% vs. 4.9%)
- There was no evidence of difference in estimates produced by the two sampling methods for PRIF domains of personal life and property, freedom of movement, and debt or dependency.
  - Reports of work in degrading conditions, specifically hazardous conditions, were universal among brick kiln workers.

Estimated population prevalence of forced labor according to PRIF threshold, by sampling method





# Programming Implications and Recommendations for Research

- Prevalence of forced labor was common among brick kiln workers with 17-34% meeting at least one PRIF threshold
  - Estimates were typically higher in RDS than PPS
- Lower estimated prevalence of forced labor in PPS compared to RDS may suggest that location of the interview is a key factor in mitigating potential social desirability or reporting bias.
- While there is much more to learn about estimating prevalence, it is important to consider what else can be measured alongside prevalence of forced labor (e.g., mental health measures, occupational health and safety).
- Intervention implications: Changed study design from panel survey (sampling at baseline and endline) to open-cohort, longitudinal design. Incorporated more focus on occupational health and safety with mechanisms for referral and, in some cases, treatment costs for those with more serious occupational injuries and health issues.

# Reducing Prevalence of Forced Labor among Brick Kiln Workers in Pakistan: An Intervention Evaluation

## Primary Objective:

To reduce the prevalence of bonded labor and improve the working conditions for brick kiln workers in Sindh Province, Pakistan, through targeted interventions and capacity-building activities. The project also aims to evaluate the impact of these strategies by comparing outcomes in intervention districts (n=2000 workers) with those in control districts (n=800 workers)



**Study Design:** Open cohort intervention design with control group



**Duration:** 2 years (Baseline, Midline, and Endline evaluations)



**35 kilns (25 intervention, 10 control)**  
Intervention Districts: Hyderabad, Umerkot, Mirpurkhas, Sanghar  
Control Districts: Badin, Tharparkar

District map of Sindh Province, Pakistan



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# Intervention Activities

- Both intervention and control receive flood impact support in the form of provision of hand-pumps (kilo and community level) and water filters (individual level)
- **District-level (intervention only)**
  - Activation of District Vigilance Committees (DVCs)
  - Activation of Legal Aid Service Units (LASUs)
- **Kilo-level (intervention only)**
  - Registration of selected kilns and workers with Sindh Employees Social Security Institutions (SESSI)
    - Registration of selected kilns and workers with Ministry of Labor
- **Individual and Family-level (intervention only)**
  - Provision of Computerized National Identity Cards (CNICs) and Birth Registration Certificates (B-forms)
  - Non-Formal Education (NFE) for adults and children
  - Occupational Safety and Health (OSH) education and support for enrolled workers including provision of Personal Protective Equipment (PPE) and rest stations set-up
  - Direct Services including referral and follow-up as well as transportation and emergency services support for severe occupational injuries

# Next Steps

- Begun enrollment (baseline/intake interviews) of workers in three kiln clusters (two intervention and one control); need to stop for about two months due to kiln closings for monsoon rains but will do some qualitative key informant interviews and possibly some additional baseline/intake interviews.
- Expect to be implementing all activities by around October 2024. Will do a midline survey approx. one year later and an endline survey approx. two years after baseline. This will be accompanied by monthly contact between SPARC case managers and enrolled workers and quarterly M&E activities conducted by AKU.
- Analysis of midline data will be done in 2025 to see what results we have in the first year and what, if anything, might need to be modified for the second year of the intervention.
- Following completion of the endline interviews in 2026, we will analyze quantitative and qualitative data comparing outcomes for workers enrolled in intervention activities with workers in the control sites who receive only water pumps and individual water filters. Once we have results, we will begin to share with key stakeholders and audiences within Pakistan and beyond.



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