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Introducing the Sudan Labor Market Panel Survey 2022

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Introduction



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- Sudan Labor Market Panel Survey 2022 (SLMPS 2022) is the first wave of a planned longitudinal multipurpose survey focused on the labor market
- Part of a series of similar surveys carried out by ERF in Egypt, Jordan and Tunisia since 1998
 - ELMPS 1998, 2006, 2012, 2018 and 2023 (currently underway)
 - JLMPS2010 and 2016
 - TLMPS 2014
- SLMPS 2022 implemented in cooperation with the Sudanese Central Bureau of Statistics(CBS) and the Ministry of Labor and Administrative Reform (MLAR)
- Governed by a steering and technical committees with broad representation of Sudanese ministries and relevant agencies

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- SLMPS 2022 was supported by three grants to ERF:
 - Two were from the Growth and Labor Markets in Low Income Countries (GLM | LIC) initiative of the Center for Labor Economics (IZA) in Bonn, Germany, with support from the UK government Foreign Commonwealth and Development Office (FCDO)
 - One was from the LSMS+ initiative of the World Bank's Center for Development Data (C4D2)

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- Implementation of SLMPS was carried out in a very challenging political and economic environment
 - Its success depended on the commitment and perseverance of all the partners involved over a 4-year period
 - Planning for the survey started in 2018 and fieldwork was completed by CBS in June-September 2022
 - Nationally-representative sample of 4,878 households and 25,442 individuals
 - Previous nationally-representative survey in Sudan was Sudan Household Budget Survey (SHBS) carried out in 2014/15.
 - Last Labour Force Survey was carried out in 2011.
 - During COVID, there were mobile phone surveys, but only covered population owning mobile phones and were limited in scope

Chronology of planning, design, training and implementation

Date	Activity
Fall 2017	Initial planning and fundraising – GLM LIC grant
2018-19	Delays due to political situation in Sudan
January 2020	Meetings with CBS and MOLAR to initiate cooperation
2020	Several consultations with Sudanese experts and researchers to adapt questionnaire
November 2020	Programed version of questionnaire on ODK-X completed
April 2021	Contract signed between ERF and CBS/MOLAR
May 2021	Implementation of Training of Trainers (TOT) by ERF Team in Khartoum + Pretest
August 2021	Implementation of two-week training camp in Al-Jazira state
May 2022	5-day online refresher training
June-Sept. 2020	Implementation of fieldwork

Questionnaire Design

- SLMPS questionnaire consists of a household questionnaire and an individual questionnaire
- Design of questionnaire sought to ensure comparability with other LMPSs
- Specific modules and questions from the LSMS+ surveys that focus on gender-disaggregated asset, employment and entrepreneurship were adapted for inclusion in SLMPS in cooperation with the World Bank's Data Production and Methods Unit.

Household Questionnaire

- Household roster
- Housing information
- Current migration
- Remittances
- Non-labor income and social assistance
- Non-agricultural household enterprise
- Agricultural activities
 - Land Assets
 - Livestock Assets
 - Capital equipment
 - Crops
 - Other agric. income

Individual Questionnaire

- Residential mobility/migration history
- Parents' and siblings' characteristics
- Health
- Educational trajectory
- Training and skills
- Employment
- Unemployment
- Job characteristics
- Secondary employment
- Labor market history
- Marriage & fertility
- Women's employment, decision-making and mobility

- Earnings in primary and secondary employment
- International migration experience (Sudanese)
- Immigration experience (non-Sudanese)
- Displacement experience (Sudanese)
- Information technology use
- Savings behavior
- Attitudes
- Time use for adults and children
- Rights to household assets

Public Use Microdata Access

- Like all other waves of ERF's Labor Market Panel Surveys, the microdata from the SLMPS 2022 wave is available for download from ERF's Open Access Microdata Initiative (OAMDI) (www.erfdataportal.com)
- The full SLMPS 2022 data set is available
- [**Sudan Labor Market Panel Survey, SLMPS 2022**](#)
- A selection of harmonized variables is integrated in a comparative data set with other countries
- [**Integrated Labor Market Panel Surveys, ILMPS, Egy-1988-1998-2006-2012-2018, Jor-2010-2016, Tun-2014, and Sdn-2022**](#)

Sampling and sample design

Major challenge was absence of a recent nationally-representative sample frame

- Last population census was in 2008

Novel method to create updated sample frame from publicly accessible remote sensing data on population density

- We had access to updated borders down to the 2nd level of administrative geography, the *mahaliya* (locality).
 - There are 189 *mahaliya* in Sudan nested in 18 *wilaya* (state)
- We used population density data available for 100m X 100m rasters produced from remote sensing data using a process called "random forest modeling and geospatial covariates" (Stevens, Gaughan, Linard, & Tatem, 2015; WorldPop, 2020)
- This was supplemented by data from UNHCR and IOM about location of refugee and IDP camps and population concentrations
- ERF team conducted a specialized training session for CBS and MOLAR staff in Khartoum in January 2023 on how to draw such area samples for possible use in other surveys

Sample design

- Random stratified cluster sample of 5,000 households sub-divided into 250 primary sampling units (PSUs) of 20 HHs each
- Stratification was designed to obtain sufficient representation of refugee and IDP camps and areas as well as all 18 of Sudan's states
- Strata represented were as follows:
 1. Refugee camps
 2. Refugee areas
 3. IDP camps
 4. IDP areas
 5. Other urban areas
 6. Other rural areas

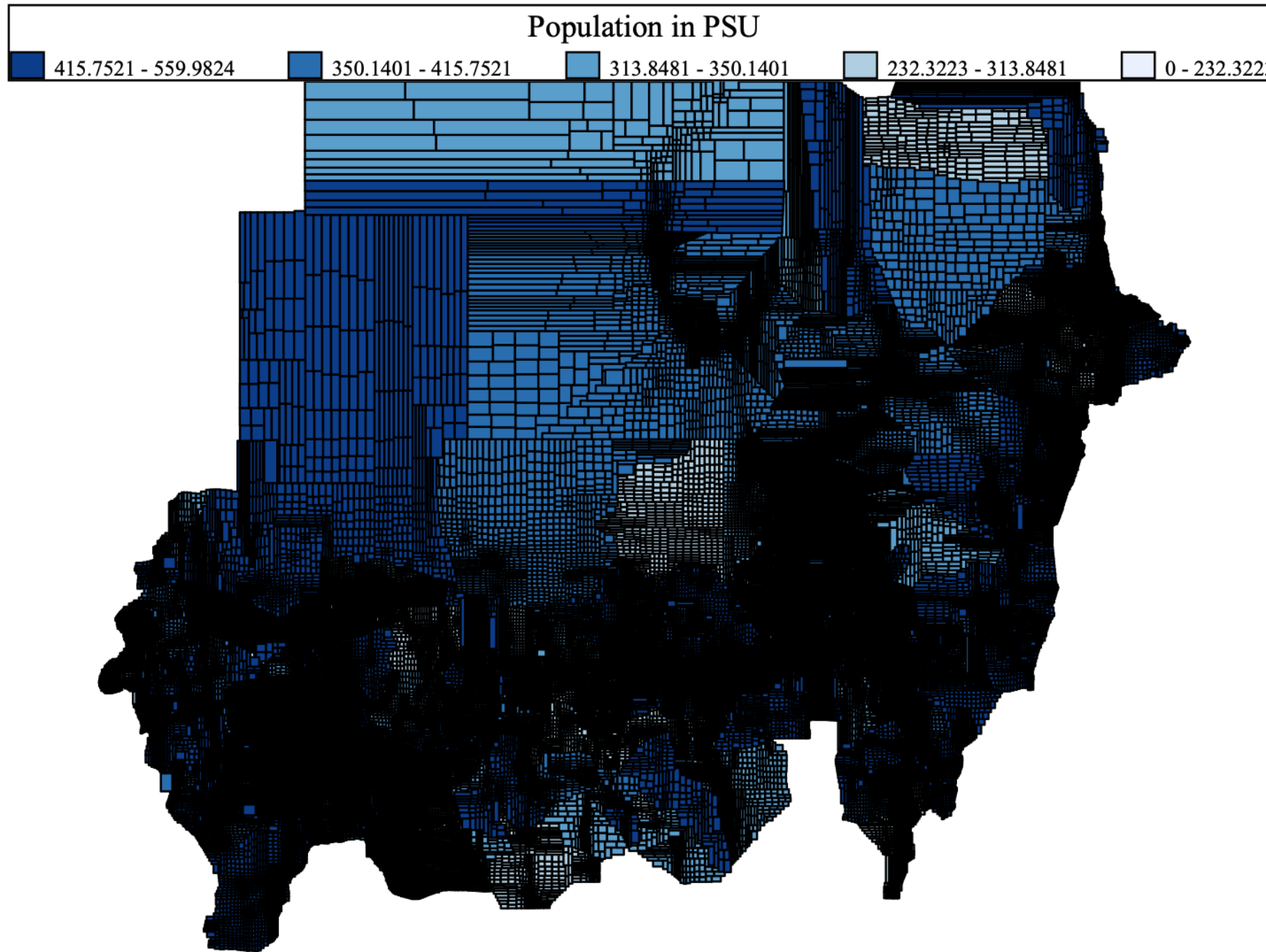
Substitute PSUs were drawn in each stratum to allow for challenges preventing fieldwork in particular PSUs due to local conflicts, weather conditions or other obstacles.

Planned and realized samples

Number of PSUs in each stratum

	Refugee Camp	IDP Camp	Refugee Area	IDP Area	Urban other	Rural other	All
Planned	15	15	30	30	93	67	250
Realized	15	13	29	29	99	65	250

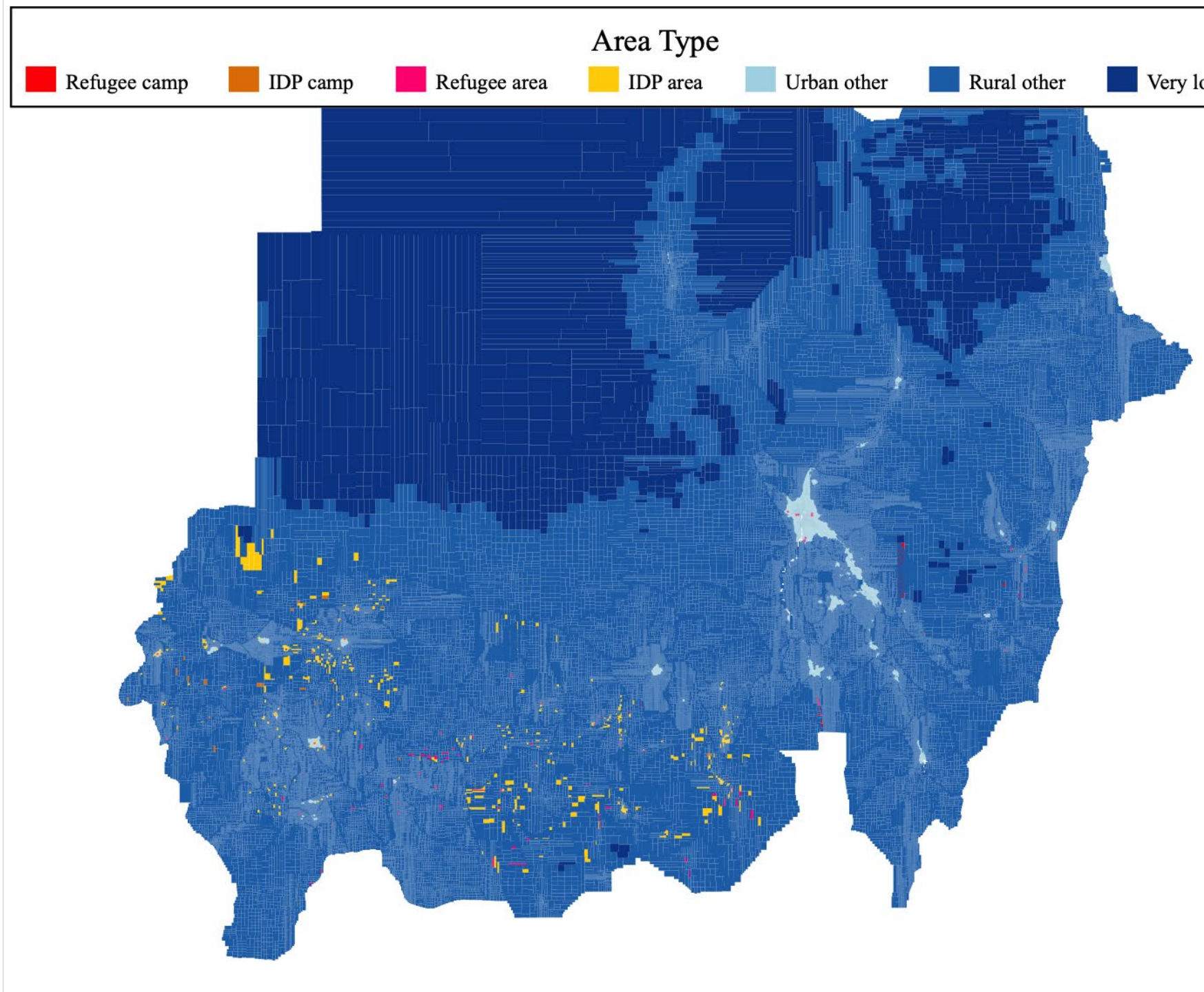
Subdividing
Sudan into PSUs
of roughly equal
population size
but maximum
population of 560
individuals (~ 100
households)



Sample frame of PSUs classified by area type

Urban/rural classification for sampling depends on UN definition of urban (≥ 300 persons/km²)

Excluded PSUs with < 0.025 persons/km²



Sampling of PSUs and Households

- Using this frame, sampling of PSUs was done as a stratified random sample with probability proportional to size (PPS) and without replacement.
- Supervisors were instructed to canvas entire PSU and list all HHs in them and identifying on the PSU map on their tablets
- Tablet program randomly sampled 20 main households and 10 backups HHs in each PSU from among those listed
 - If there were fewer than 20 listed households in the PSU, all were sampled
 - If there were fewer than 5 households, the PSU was replaced

GPS coordinates

- The public use version of the data includes GPS coordinates for the centroid of the sample PSUs
 - This is now a common practice in many surveys such as DHS, MICS, LSMS to allow researchers to link household locations to high-resolution weather and land cover data to study the effects of issues such as climate change or conflict
- To protect confidentiality, we follow the standard practice of adding a random displacement error to the GPS coordinates of the PSU of up to 5km in rural areas and 2 km in urban areas
 - We make sure that after the displacement error is added, PSU locations remain in the same state and locality

Sample weights

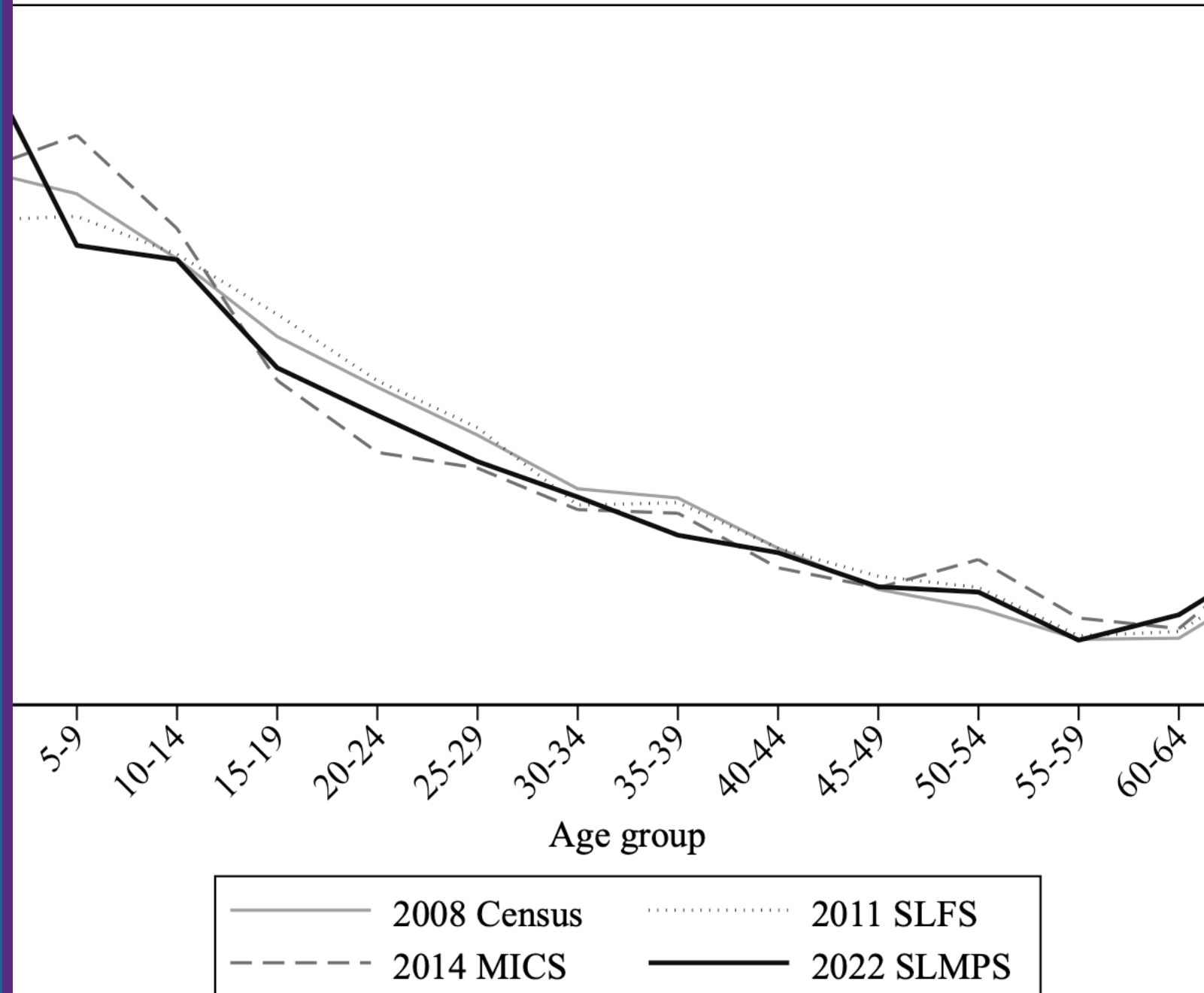
- Given the stratification strategy and the possibility of non-response, sample weights must be used with the data
- Household sample weights account for the differential probabilities of PSUs being sampled across strata and states and differential probabilities of HHs being sampled within PSUs.
 - They are also designed to produce the correct total count of refugees and IDPs as reported by UN sources
 - These should be used for all variables obtained from the household questionnaire
- Additional corrections for individual non-response are applied to the household weights to produce individual weights
 - Individual non-response amounted to 5% of all individuals (5 and older) listed by households
 - They address systematic differences in individual non-response by age, sex, marital status, etc
 - These should be use for all variables obtained from the individual questionnaires

Training and Data collection

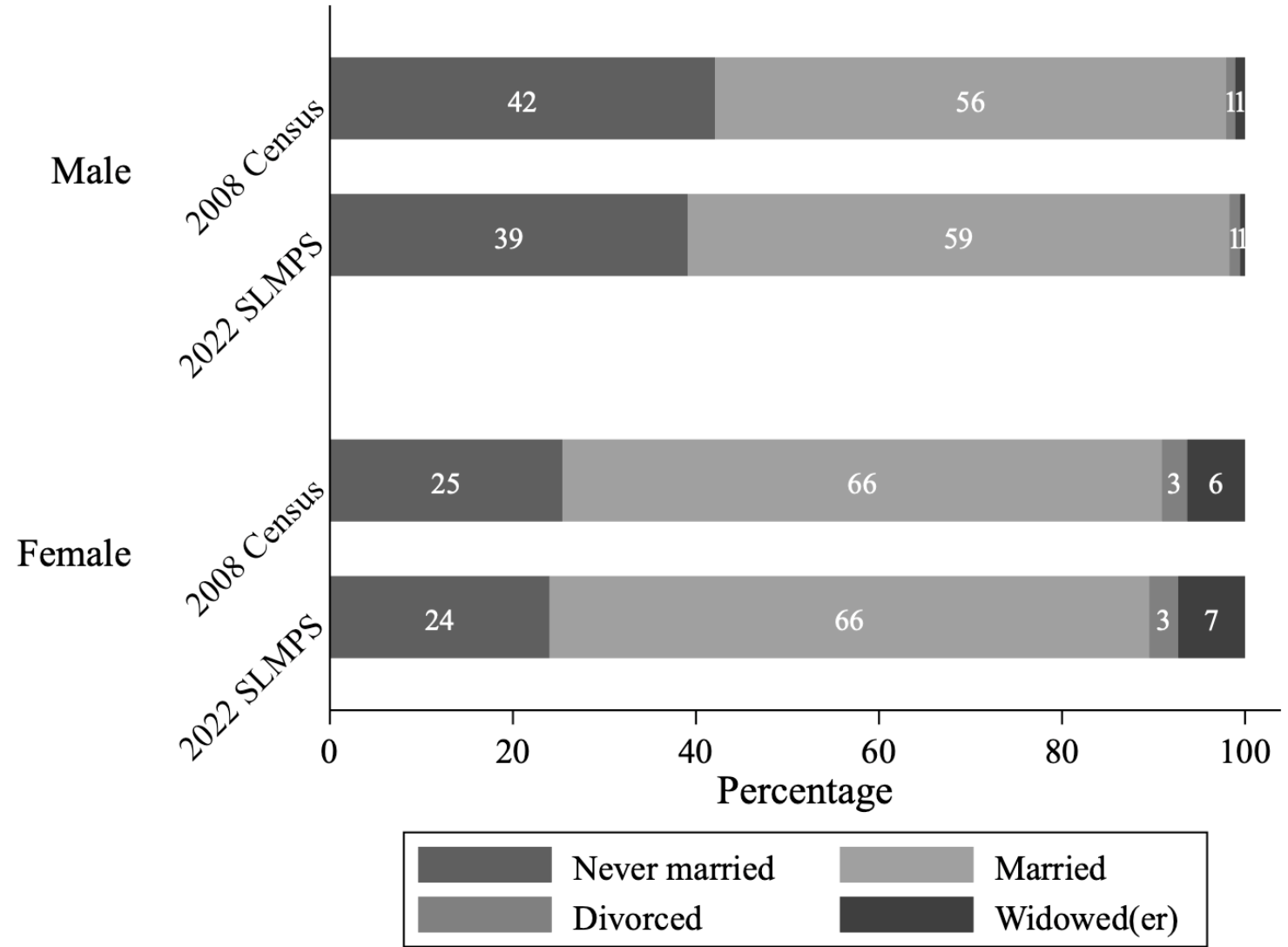
- 120 enumerators and 20 supervisors were recruited locally and trained to implement SLMPS 2022
- Additional team of quality control enumerators located in HQ of CBS
- Enumerators organized in 20 enumeration teams of 3 to 5 enumerators each
 - One team per state, except for Khartoum and South Darfur states, which had two teams each.
- Listing of households and data collection carried out using ODK-X program on tablets

Some key findings and comparisons with existing data sources on Sudan

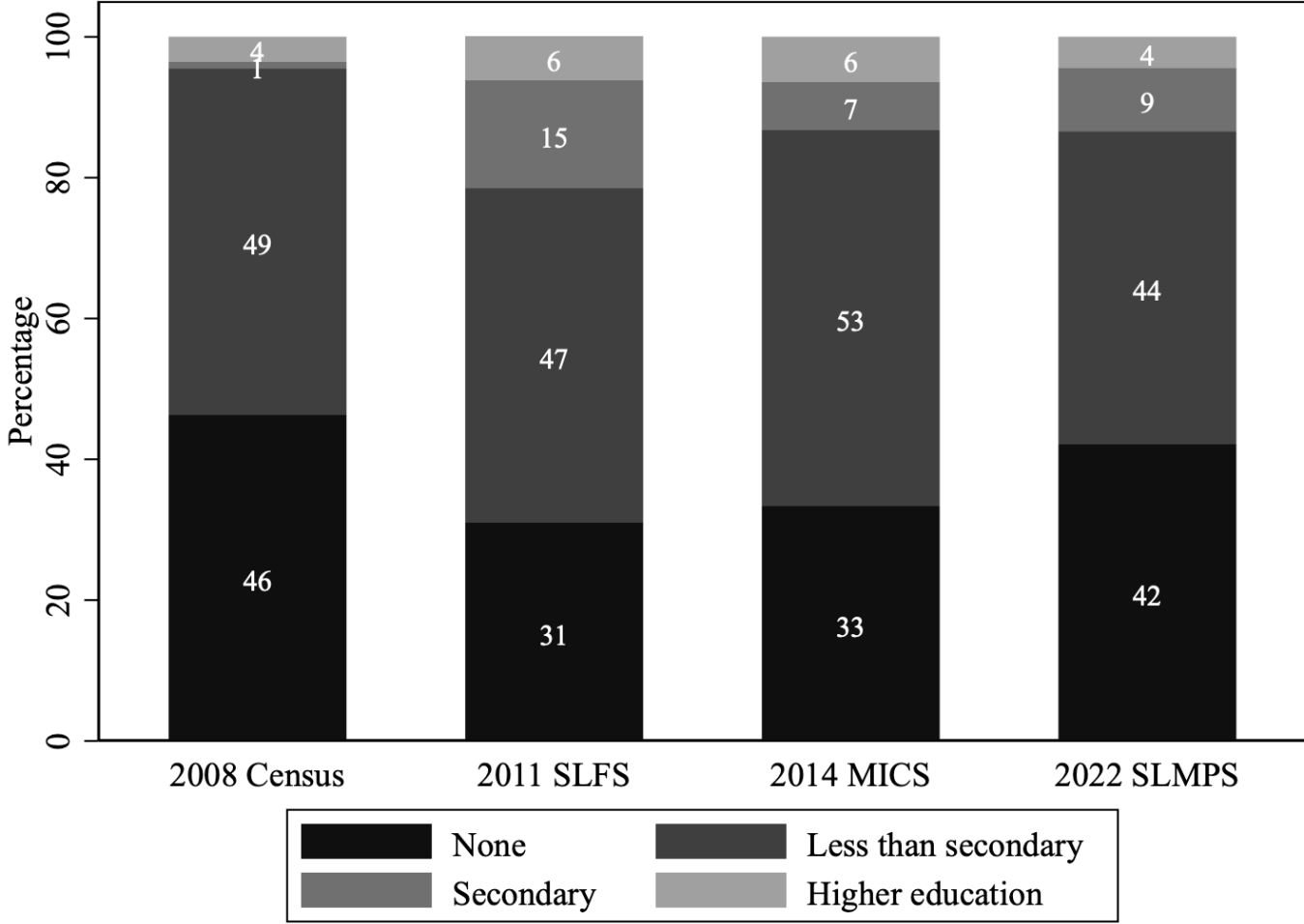
Age distribution of population



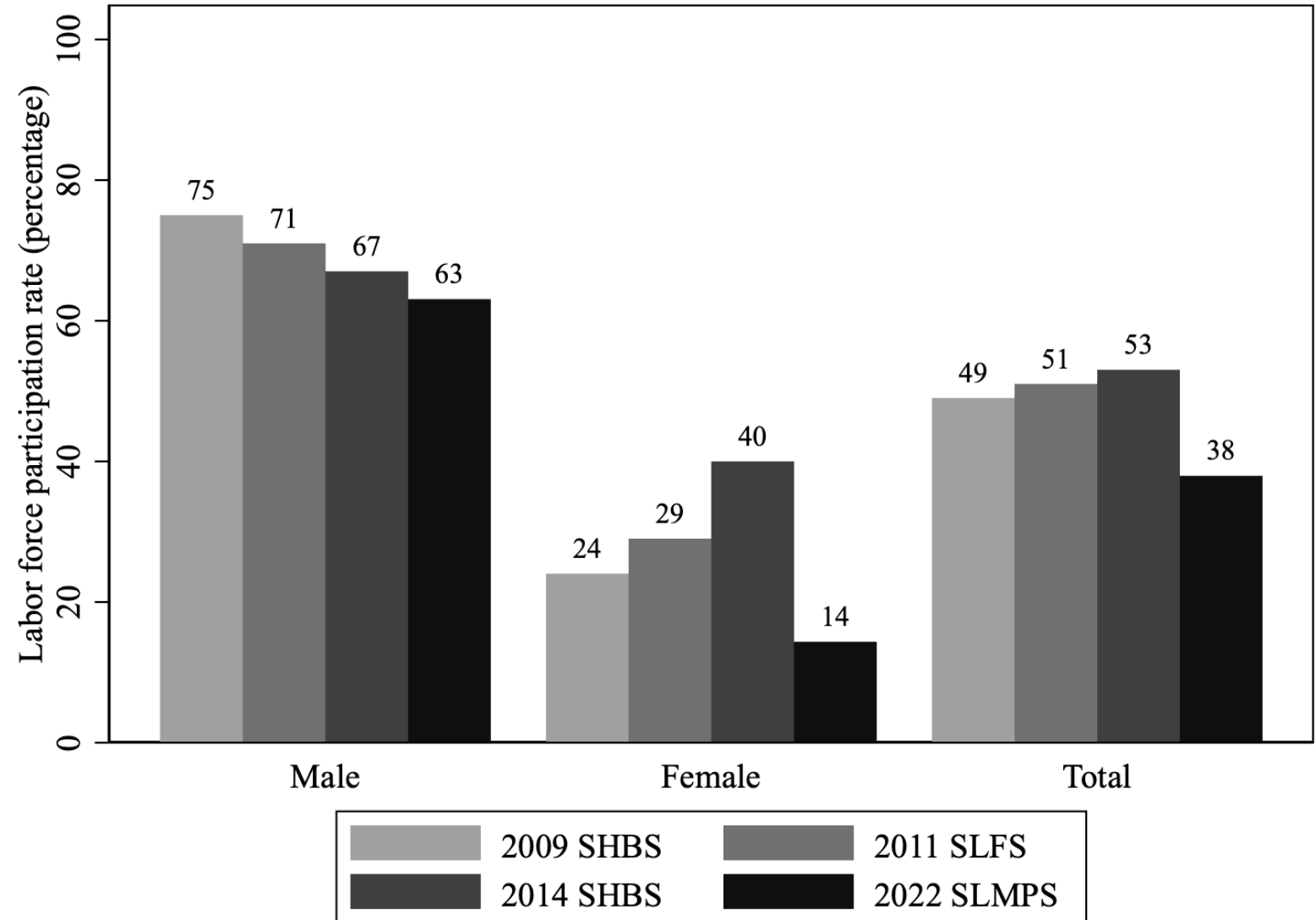
Distribution by marital status



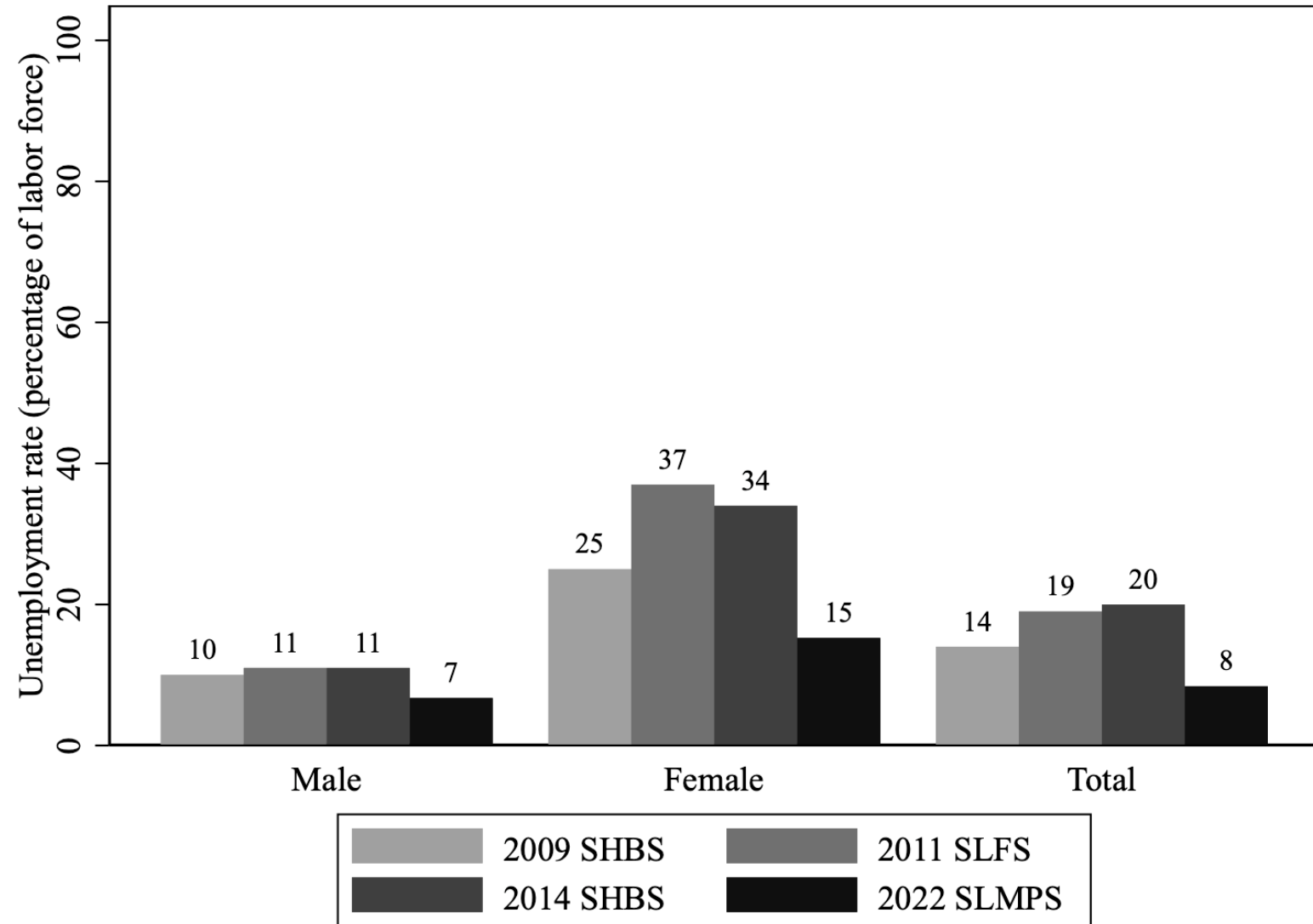
Distribution by educational attainment



Labor force participation rate



Unemployment Rate



Conclusions

- Sudan labor market panel survey is the only nationally representative survey in Sudan since 2014/15
- Contains detailed data on a wide variety of topics, including employment, unemployment, education, migration, family formation, livelihood activities, assets, earnings, health, coping with shocks, gender role attitudes, women's agency,
- Possible deliberate misallocation from 5 to 4 year olds due to requirement to complete individual questionnaires for those 5+
- Individuals being remunerated by household rather than data item entered may have contributed to this bias
- Distribution more comparable to those of 2008 Census than other surveys

Conclusions

- Signs of increased discouragement in the labor market
 - Lower participation rates among both men and women
 - Lower unemployment rates, indicating active search is less prevalent among those who are not working
- **Many promising avenue of future research**
 - Baseline for socioeconomic conditions just prior to conflagration of conflict in April 2023
 - Longitudinal design allows us to revisit same household to study impact of conflict
 - Ability to examine situation of vulnerable groups such as IDPs and refugees
 - Ability to link to geospatial data to study climate change and effects of conflicts
 - Ability to study wide variety of topics related to human development and labor markets

Acknowledgement

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