

# Land Inequality in the Developing World

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# Motivation

- ▶ 3 out 4 of the poorest billion individuals in the world depend on agricultural land for their subsistence (FAO, 2016)
  - ▶ Livelihood of the poor depends on agricultural land (e.g. Deininger, 2003, Banerjee and Duflo, 2007,etc.)
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  - ▶ Land distribution & access to land is hence a powerful policy tool in poverty alleviation
- ▶ Economic development
  - ▶ Initial equitable distribution of land & subsequent growth rates (Rodrik, 1995, Deininger & Squire, 1998)
  - ▶ Land Inequality → impede financial development; restrict poor individuals' access to credit
  - ▶ Land concentration is also linked to agricultural productivity & efficiency

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  - ▶ Missing landless households
- ▶ This data is useful for understanding *efficiency*, not *equity*, thus we will turn to **household survey data**

## What we do

- ▶ We exploit survey data which allows us to focus on the land privately owned by a household
- ▶ Provide consistent estimates of land ownership inequality across countries and regions of the world
  - ▶ Both in terms of area and value
  - ▶ Accounting for the landless
- ▶ Countries covered based on best available surveys (info on area and value)

# Data Sources

## Data sources census and surveys

Country	Type	Year	Description	Source
<b>AFRICA</b>				
Burkina Faso	Census	2010	FAO 2010	FAO
	Survey	2014	Enquete Multisectorielle Continue (EMC-BF) 2014	LSMS (World Bank)
Ethiopia	Census	2000	FAO World Census of Agriculture 2000	FAO
	Survey	2015	Ethiopia Socioeconomic Survey (ESS)- Wave 3 (2015-16)	LSMS (World Bank)
Gambia	Survey	2015	Gambia Integrated Household Survey (IHS) 2015	The Gambia Bureau of Statistics
Malawi	Census	2006	FAO World Census of Agriculture 2010	FAO
	Survey	2016	Fourth Integrated Household Survey (IHS4) 2016	LSMS (World Bank)
Niger	Survey	2014	National Survey on Household Living Conditions and Agriculture 2014	LSMS (World Bank)
Nigeria	Survey	2015	General Household Survey, Panel 2015-2016	LSMS (World Bank)
Tanzania	Census	2007	FAO World Census of Agriculture 2010	FAO
	Survey	2014	National Panel Survey (NPS) 2014-15	LSMS (World Bank)
<b>ASIA</b>				
Bangladesh	Census	2008	FAO World Census of Agriculture 2010	FAO
	Survey	2011	Bangladesh Integrated Household Survey (BIHS) 2011	International Food Policy Research Institute (IFPRI)
China	Census	2002	ILC	Khan 2001
	Survey	2002	Chinese Household Income Project	Chinese Academy of Sciences and others
India	Survey	2016	China Family Panel Studies (CFPS) 2016	Institute of Social Science Survey, Peking University
	Census	2010	FAO World Census of Agriculture 2010	FAO
Indonesia	Survey	2012	All India Debt and Investment Survey (AIDIS), 2012	Ministry of Statistics and Programme Implementation
	Census	2013	FAO World Census of Agriculture 2010	FAO
Pakistan	Survey	2014	Indonesia Family Life Survey	
	Census	2010	FAO World Census of Agriculture 2010	FAO
Vietnam	Survey	2010	Pakistan Household Integrated Survey (HIES), 2010-11	Pakistan Bureau of Statistics
	Census	2011	FAO World Census of Agriculture 2010	FAO
	Survey	2014	Vietnam Household Living Standards Survey (VHLSS), 2014	General Statistical Office (GSO) of Vietnam
<b>LATIN AMERICA</b>				
Brazil	Census	1996	FAO World Census of Agriculture 2000	FAO
	Survey	1997	Pesquisa sobre padrões de vida 1996-1997	LSMS (World Bank)
Ecuador	Census	2000	FAO World Census of Agriculture 2000	FAO
	Survey	2014	Ecuador Living Conditions Survey	National Statistical Office of Ecuador
Guatemala	Census	2003	FAO World Census of Agriculture 2000	FAO
	Survey	2000	Encuesta Nacional sobre Condiciones de Vida 2000	LSMS (World Bank)
Mexico	Census	2007	FAO World Census of Agriculture 2010	FAO
	Survey	2009	Mexican Family Life Survey	UIA and CIDE
Peru	Census	2012	FAO World Census of Agriculture 2010	FAO
	Survey	2007	Encuesta Nacional de Hogares sobre Condiciones de Vida y Pobreza 2007	National Statistical Office of Peru

# Methodology (1/3)

## 1. Land **area** inequality

- ▶ Update estimates based on census data  
Existing systematic cross-country estimates of land area inequality dates back to the 1990s (Deininger & Squire, 1998)
- ▶ Provide new estimates based on survey data
- ▶ Gini coefficients & “Top land shares”

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  - ▶ Self-reported size, GPS
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- ▶ Measurement of size of land
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  - ▶ Validate estimates in different survey data ((DHS))
- ▶ Ownership of land
  - ▶ Ownership: "Do you or anyone in the household own this land?"
  - ▶ Tenure: "What is the ownership regime of this land?/ How was this land acquired?/Do you have the right to sell this land or use it as a collateral?/ Do you have a title for this land?"
  - ▶ Extensive discussion of this in Doss et al (2015)



# Methodology (2/3)

## 2. Land **value** inequality

- ▶ Estimate the value of land and its distribution
- ▶ Value estimates
  - Currently: self-reported values of land
  - In-progress: More refined measure of value

## Methodology (3/3)

- ▶ Land value ineq. including the **landless population**
  - ▶ Accounting for the population dependent on agriculture that are landless
  - ▶ HH in the agricultural module that declare not owning any land
  - ▶ Other ways of identifying the landless households (e.g. main employment)

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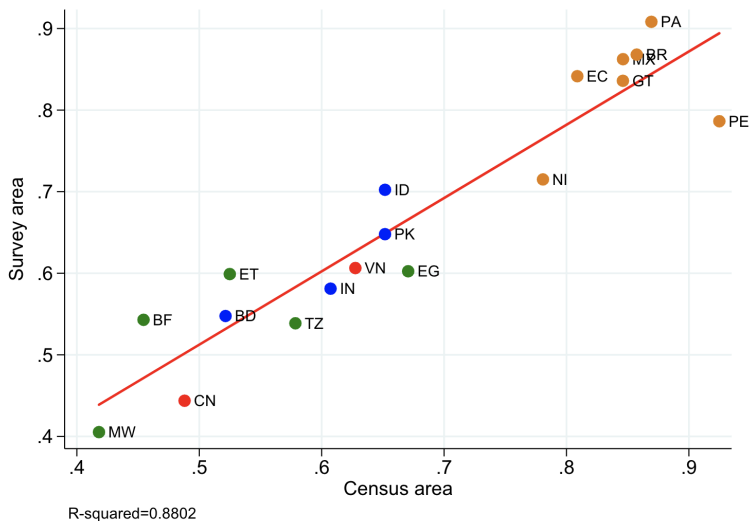
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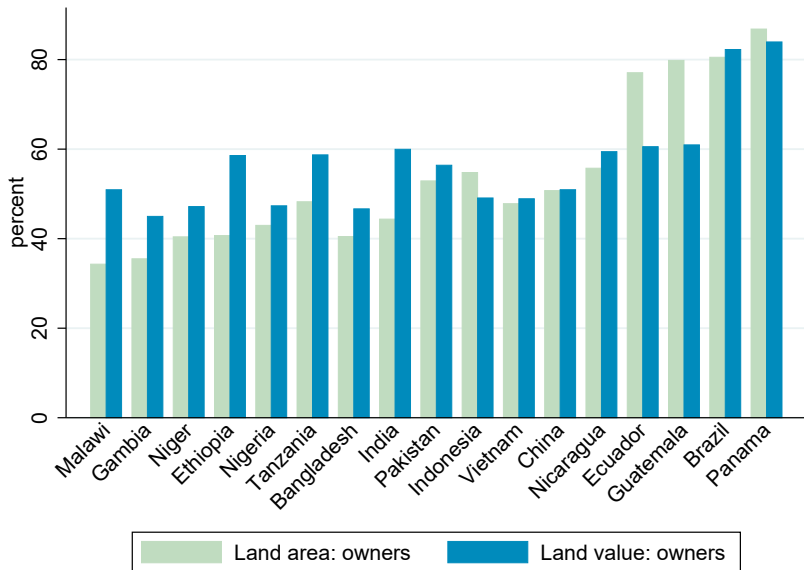
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2. Land-area inequality can differ importantly from land-value inequality
3. Differences in the proportion of landless across countries vary substantially, affecting markedly inequality estimates
4. Regional patterns in inequality according to our benchmark metric contradict existing patterns from agricultural censuses

# 1: Land-area inequality: census vs survey (Data)

Gini estimates for land area based on census and survey



## 2a: Land areas & land values

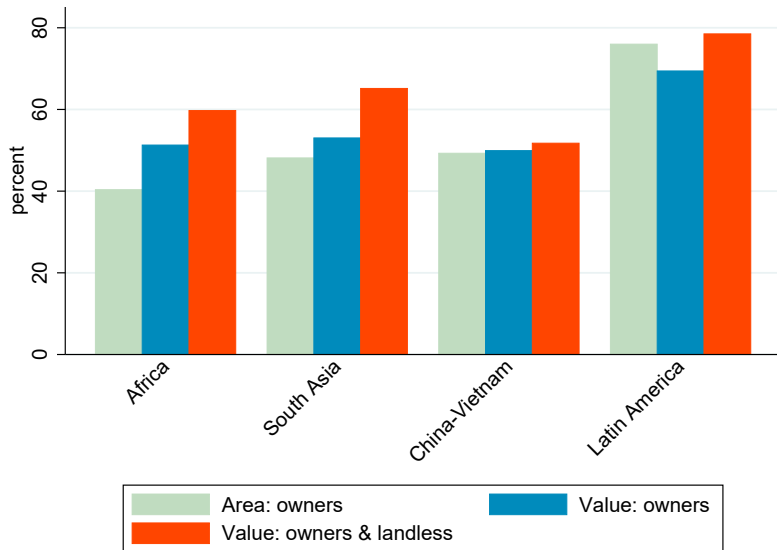




## 2b: Land values & landless (Table)



### 3: Regional patterns- Land area, value & the landless



## Conclusions & Next steps

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- ▶ Land **ownership** inequality  $\neq$  Landholding inequality
- ▶ Accounting for land values and including the landless make a difference!
- ▶ Next steps:
  - ▶ More precise estimation of value of land
  - ▶ Revisiting the literature: Test the link between land inequality and other factors

Thank you for your attention!

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# Appendix

# Landless population (Back)

## Landless households as a percentage of agricultural households

World Regions	Individual Countries					
<b>South Asia</b> 36%	India 39%	Bangladesh 40%	Pakistan 36%	Indonesia 28%		
<b>China-Vietnam</b> 7%	China 3%	Vietnam 12%				
<b>Sub-Saharan Africa</b> 29%	Ethiopia 40%	Gambia 33%	Malawi 25%	Niger 27%	Nigeria 27%	Tanzania 21%
<b>Latin America</b> 35%	Ecuador 36%	Guatemala 56%	Brazil 29%	Nicaragua 40%	Panama 12%	

Table 1: Proportion of landless households

Note: This table provides the proportion of landless household out of the landowning and landless households. The household is defined as landless i) if it does not own any piece of land and ii) if at least one household member participates in the agriculturally-related activities. We include Brazil and Peru in this table since we observe the percentage of landless households, despite surveys not covering the value of land. Hence, they are not included in subsequent analyses.

# Data Source: LSMS & DHS (Methodology) (Results)

Gini indexes for the closest years between DHS and LSMS

