The Eighteenth Meeting of the Washington Group (WG) on Disability Statistics

Rural Economic Opportunities and People with Disabilities in Sub-Sharan Africa

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IFAD, Rome 7 November 2018

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Disability
Statistics

Outline

- Background

- Objectives

- Value added

- Description of the data

- Descriptive statistics

- Model and empirical strategy

- Results

- Concluding remarks / observations

Background and motivation

- 15% of the world population has some kind of disability (WHO, 2011)
    - A significant proportion resides in developing countries (82%, WHO 2011)
    - But little evidence about economic lives of people with disabilities in developing countries
- Negative correlation between disability and multidimensional poverty (WHO, 2011; Elwan 2011)
- Disability could potentially cause poverty by deterring economic opportunities and activities
- Most quantitative studies in developing countries use cross-sectional data
- IFAD commitment

Objectives

- Characterize rural households with disabled members in developing countries

- Study the economic activities of disabled people and their households

- Given the constraints faced by disabled people and their households

    Investigate differences in their decisions and outcomes regarding agricultural and non-agricultural enterprises

- Since women are more likely to take the on the role of caregivers

    Investigate whether women use their time differently than men within households with PwDs

Value added to the literature

Provide new evidence

- Provide recent empirical evidence on economic opportunities for people with disability in developing countries

Use of cross-country datasets that are:

- Nationally representative
- At individual and household-level
- Same individuals and households across time

Establish causality paths

- The use of longitudinal data allows to address some of the issues of causality (although not all)

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Data sources: LSMS- ISA Data

Surveys that used the Washington Group on Disability Statistics
short set of questions

Ethiopia	Nigeria
Waves: 2012, 2014, 2016	**Waves:** 2011, 2013, 2016
# HH: 3623	**# HH :** 3080
# Ind. : 17118	**# Ind.:** 17168

Our definition of disability
The Washington Group Short Set of Questions

1. Do you have difficulty **seeing**, even if wearing glasses?

2. Do you have difficulty **hearing**, even if using a hearing aid?

3. Do you have difficulty **walking** or climbing steps?

4. Do you have difficulty **remembering** or concentrating?

5. Do you have difficulty (with self-care such as) **washing** all over or dressing?

6. Using your usual language, do you have difficulty **communicating**, for example understanding or being understood?

The possible answers are:

a. No - no difficulty

b. Yes - some difficulty

c. Yes - a lot of difficulty

d. Cannot do at all

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Our definition of disability

- For the purpose of this study, an individual is considered to have a disability if he/she reports some, a lot of difficulty and not at all in at least one of the activities of seeing hearing, walking or climbing, remembering or concentrating, self-care or communicating

- Limitation: because the proportions of PwDs in the samples are so small, doing disaggregated analyses by type and severity of disability will further reduce the proportion of PwDs.

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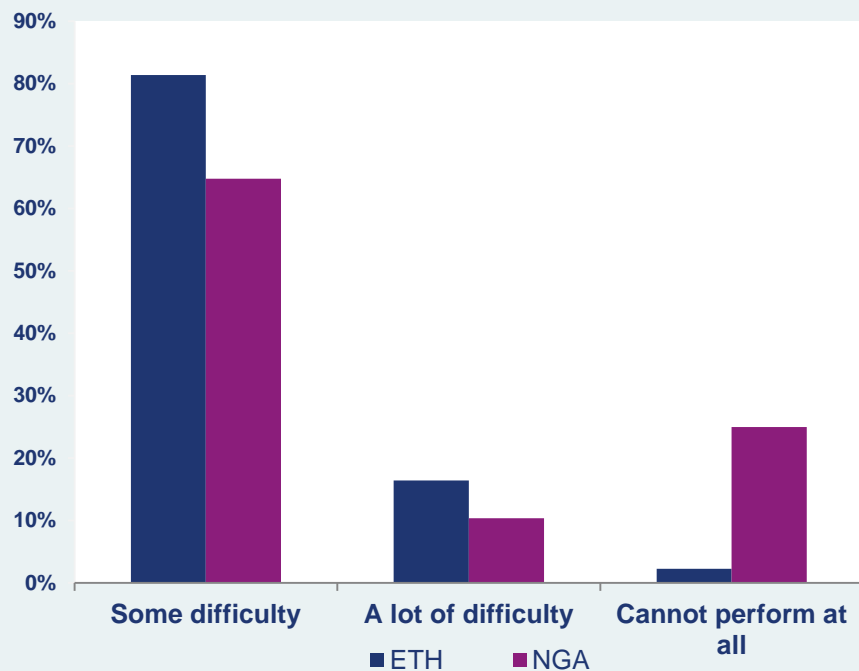Investing in rural people

Sample

	Ethiopia	Nigeria
Household level		
Number of households*	3623	3080
Share of HH with disabled members*	29%	24%
Average number of disabled people per household	0.4	0.4
Individual level		
Number of individuals*	17118	17168
Share of disabled individuals*	8%	6%
Males	47%	53%
Females	53%	47%

Severity of disability
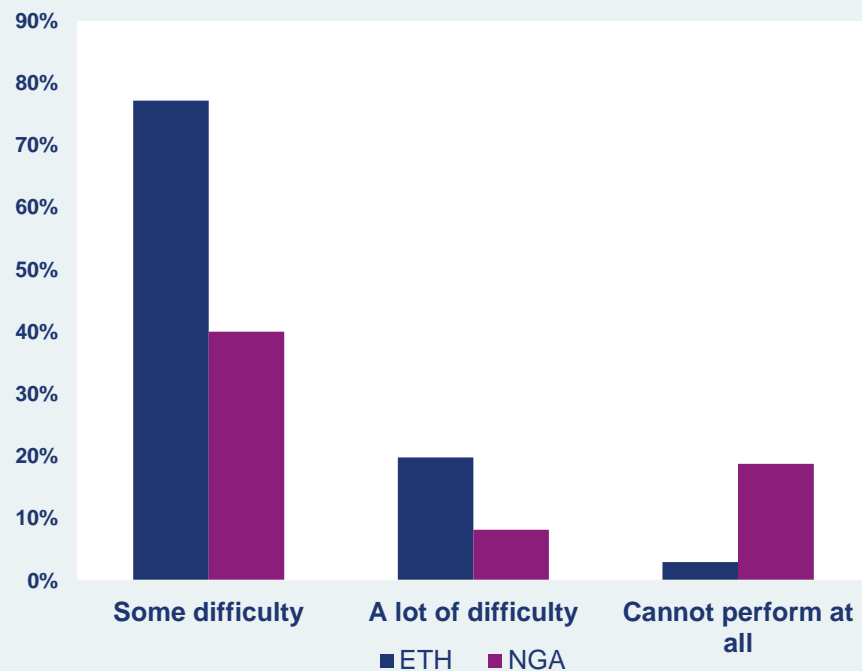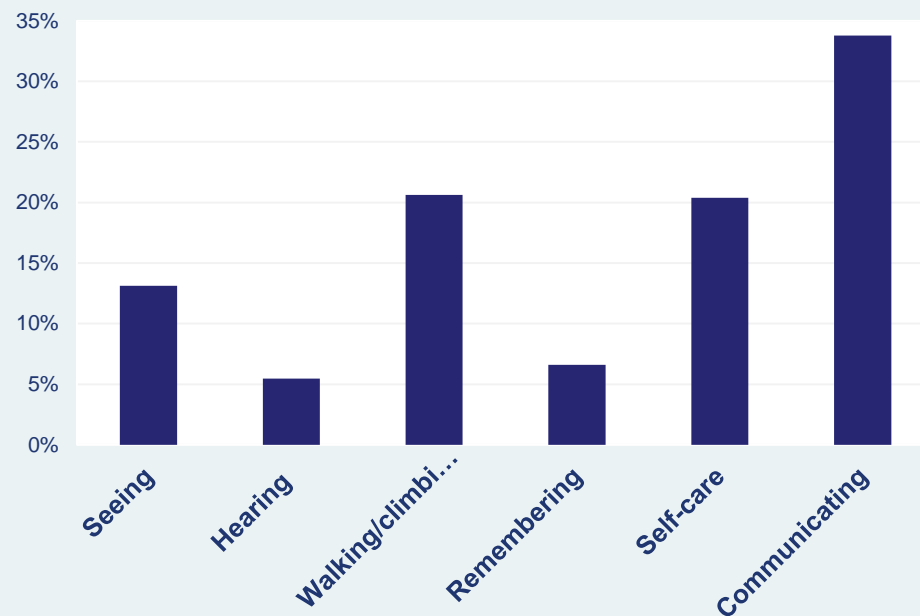
Kind of disability

Ethiopia
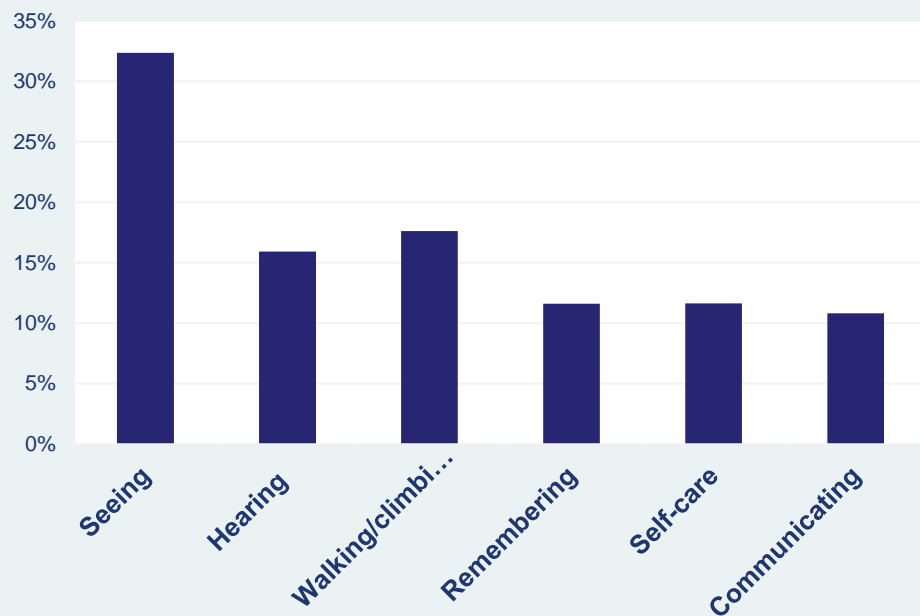
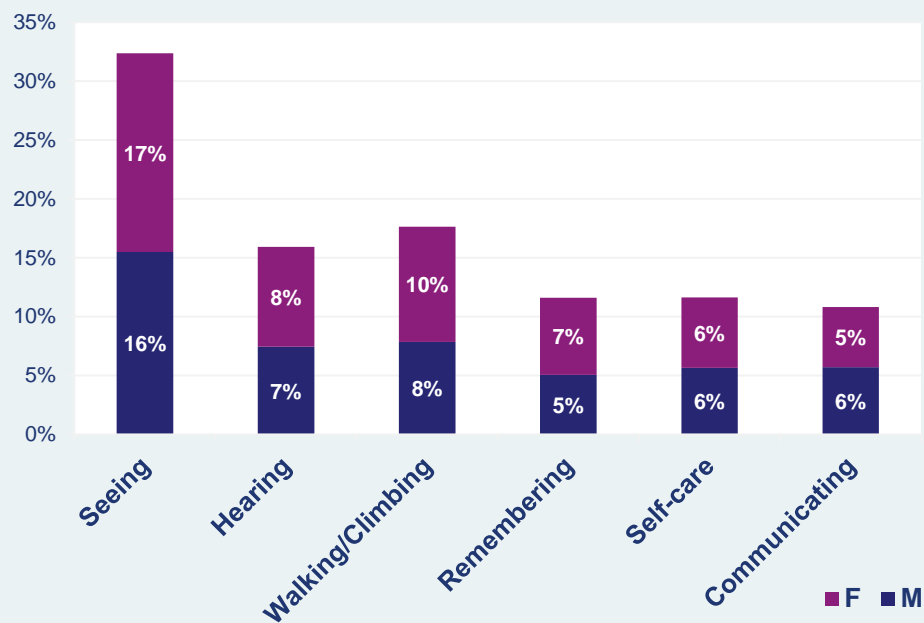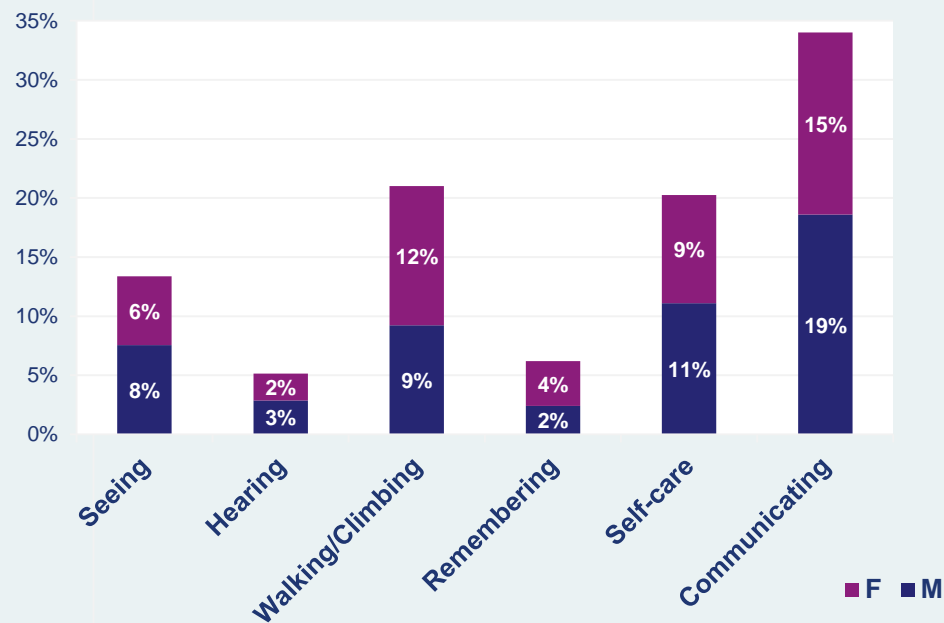**Nigeria**
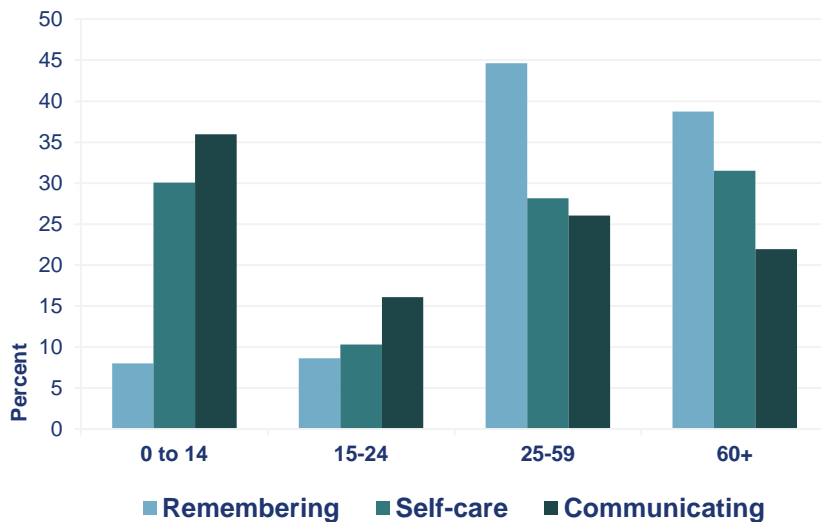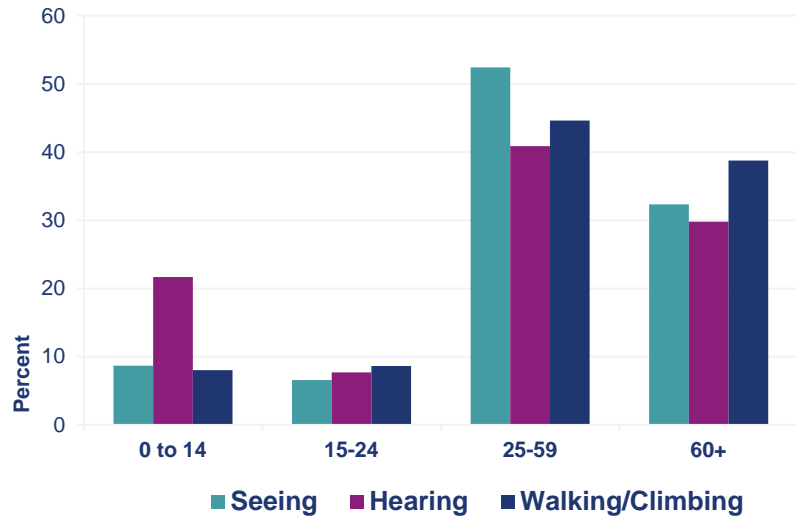
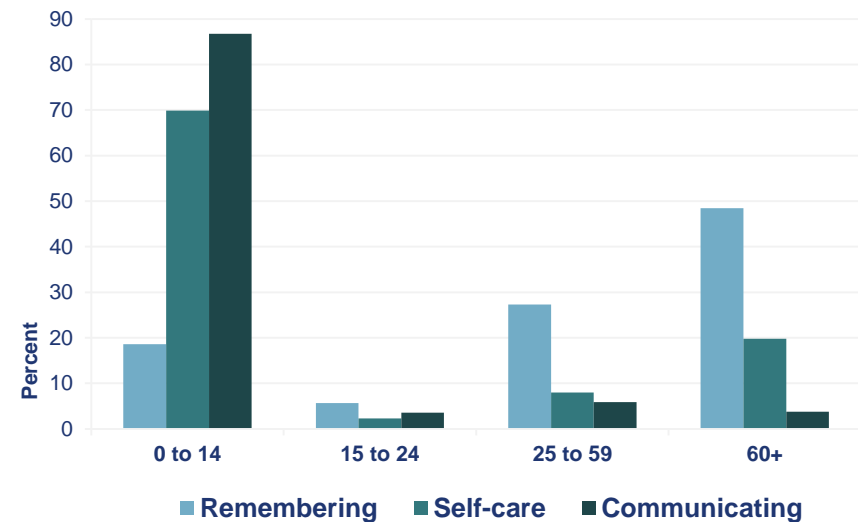# Kind of disability and gender

Ethiopia

Nigeria

Age and disability
(UN age groups)

Ethiopia — Physical

Nigeria — Physical

Ethiopia — Cognitive/Emotional

Nigeria — Cognitive/Emotional

13
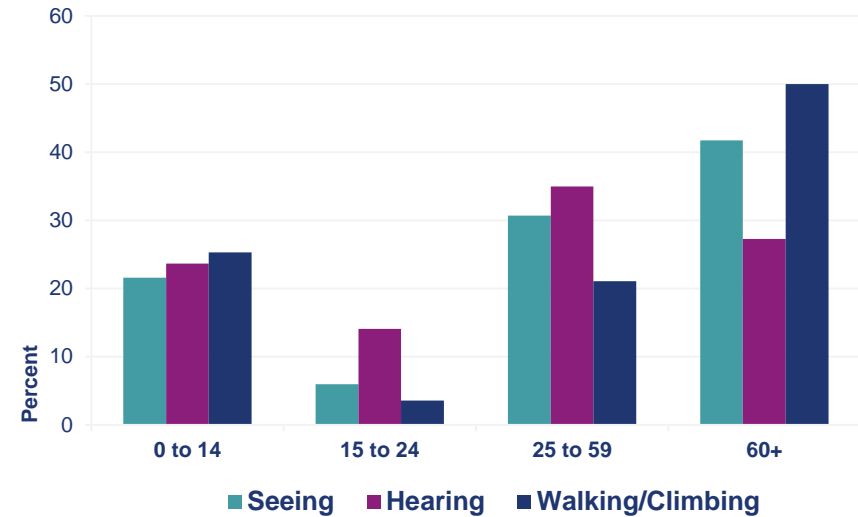
Descriptive statistics
Weighted averages of household head characteristics by disability status

Variables	Ethiopia		Nigeria	
	Disabled	**Non-Disabled**	**Disabled**	**Non-Disabled**
Household head's characteristics				
Age	53.951***	43.358***	54***	51***
Gender is male	0.725***	0.81***	0.867**	0.834**
Married	0.717***	0.82***	0.831***	0.79***
Household size	5.704**	5.879**	6.949**	6.615**
Head has no education	0.725***	0.575***	0.427***	0.373***
Main Occupation: Agriculture (%)	85.7*	83.7*	35*	38.1*

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Descriptive statistics
Weighted averages of household characteristics by disability status

Shocks (%)	Ethiopia		Nigeria	
	Disabled	**Non-Disabled**	**Disabled**	**Non-Disabled**
Illness in the family	21.5***	13.5***	0.101***	0.042***
Farm-crop damage and/or loss of livestock	12.5	10	4.6***	2.1***
Non-farm-job loss and/or business failure	0.8	1	5.7*	4.2*
Natural disaster (drought, flood, heavy rain)	23.4***	18.3***	12.3***	8.7***
Price changes	31.5**	27.4**	14.7	9.9

Descriptive statistics
Weighted averages of household income by disability status

Variables	Ethiopia		Nigeria	
	Disabled	**Non-Disabled**	**Disabled**	**Non-Disabled**
Land area (ha)	2.6	2.2	0.6	0.6
Total Net Income* (US$) per capita	89.5***	104.7***	2.5 *	4*
Income Shares: (%)				
• Crop	59.5	58.3	41.1	40.1
• Livestock	17.3	18.7	5.5	6.6
• Agricultural Wage	5.7	5.2	0.9	0.8
• Non Agricultural Wage	2.8**	4.5 **	7.9	9
• Self-Employment wage	6.7***	8.8***	36.2	38.3
• Transfers	7.9***	4.5 ***	6.1***	3.4***

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Econometric Specification

$$Y_{it} = \beta dis_{it} + \alpha X_{it} + \gamma_i + \delta_t + \varepsilon_{it}$$

Where:

i denotes the entity (individual or household)

t denotes the survey wave

Y_{it} proxy for: poverty, food security, time use

dis_{it}, identifies as a dummy variable whether an individual is disabled

X_{it}, is the vector of control variables (include the individual, household and household head's characteristics)

γ_i and δ_t represent the entity and time fixed effect respectively

ε_{it} represents the error term

Econometric Specification, gender differentiated

$$Y_{it} = \beta dis_{it} + \pi gender_{it} + \tau(gender * dis)_{it} + \alpha X_{it} + \gamma_i + \delta_t + \varepsilon_{it}$$

Where:

$gender*dis$, is an interaction term between gender and disability

τ, is the marginal effect that captures the difference in probability to participate in an activity by gender among disabled people and at household level estimates whether men in households with disabled member are more or less likely to engage in different activities than women in households with a disabled person.

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Results HH Level
Poverty & Income

	Ethiopia	Nigeria
	Marginal Effects	
Log of total net income	ns	(-) *
Log of agricultural wage	ns	ns
Log of net nonfarm self-employment income	(+)*	(-)***
Log of annual net income from crop production per ha	ns	ns
Participation in crop/livestock activities (on farm)	ns	(-)**
Participation in non-ag, self-employment (nonfarm)	(+)***	(-)***
Participation in transfers	(+)***	(+)***
Share of net income		
Agricultural	(+)*	ns
Crop production	ns	ns
Livestock	ns	(-) *
Non-agriculture	ns	ns
Self-employment in non-agriculture enterprise	ns	ns
Public and private transfers	(+)***	(+)**
Number of households in the panel	2,080	2,058

Results
Food Security

	Ethiopia	Nigeria
	Marginal Effects	
Food security related outcomes		
Worried about not having enough food in the last 7 days?	(+)***	ns
Relied on less preferred food in the last 7 days?	(+)***	(-)***
Limited variety in the last 7 days?	(+)***	ns
Limited portion size in the last 7 days?	(+)***	ns
Reduced frequency of meals in the last 7 days?	(+)***	ns
Adults restricted consumption in the last 7 days?	(+)***	ns
Fasted for 24 hours because there was no food in the last 7 days?	(+)***	ns
Number of households in the panel	2,989	2,858

Time use	Ethiopia	Nigeria
	Marginal Effects	
Individual level		
Agricultural activities in the last 7 days?	(-)**	(-)***
Non agricultural activities in the last 7 days?	ns	(-)***
Household level (Gender disaggregated): Do women and men in households with a disabled member engage differently in		
Agricultural activities in the last 7 days?	ns	(+)*
Non agricultural activities in the last 7 days?	(-)***	ns

Conclusions

Findings

- Poverty: Having PwDs in the HH reduce income
- Food Security: in ETH: Having PwDs affects negatively perceptions of food security (worry about food, have limited variety of food, limit the portion size of meals, and reduce the frequency of meals)
- Time Use: In Ethiopia and Nigeria, having a disability reduces the likelihood of engaging in agricultural activities.
- Ag Activities: in NGA: HH with PwDs are less likely to engage in crop/livestock and in ag

Policy implications

- Available statistics important for creating national representative and cross country comparisons but still to be analyzed to give policy indications in rural areas and designing policy programs for HH with PwDs
- Disentangle social assistance programs versus productive activities from national representative data?

Future research

- Does disability affect productive activities in agriculture? Focus of IFAD and check with Pilot project

Thank you for your attention