Signatura: EB 2019/128/R.7
Tema: 4 c)
Fecha: 12 de noviembre de 2019
Distribución: Pública
Original: Inglés

Invertir en la población rural

Actividades económicas de las personas con discapacidad en las zonas rurales: nuevos datos empíricos y oportunidades de acción para el FIDA

Nota para los representantes en la Junta Ejecutiva

Funcionarios de contacto:

Preguntas técnicas:

Paul Winters
Vicepresidente Adjunto
Departamento de Estrategia y Conocimientos
Tel.: (+39) 06 5459 2189
Correo electrónico: p.winters@ifad.org

Sara Savastano
Directora
División de Investigación y Evaluación del Impacto
Tel.: (+39) 06 5459 2155
Correo electrónico: s.savastano@ifad.org

Envío de documentación:

Deirdre Mc Grenra
Jefa
Oficina de Gobernanza Institucional y Relaciones con los Estados Miembros
Tel.: (+39) 06 5459 2374
Correo electrónico: gb@ifad.org

Junta Ejecutiva — 128.º período de sesiones
Roma, 10 a 12 de diciembre de 2019

Para **examen**

Índice

Acrónimos y siglas

FIDA11	Undécima Reposición de los Recursos del FIDA
LSMS-ISA	Estudio de Medición de los Niveles de Vida - Encuestas Integradas sobre Agricultura

I. Justificación

1. La Convención sobre los Derechos de las Personas con Discapacidad y su Protocolo Facultativo reconocen que las personas con discapacidad no son beneficiarios de caridad, tratamiento médico y protección social, sino sujetos capaces de ejercer sus derechos, adoptar decisiones basadas en su consentimiento libre e informado y participar activamente en la sociedad.[1] En la misma línea, la Agenda 2030 para el Desarrollo Sostenible reconoce la discapacidad como una cuestión transversal y pide la inclusión de las personas con discapacidad en sus objetivos, metas y acciones, incluida la promoción del crecimiento económico sostenido, inclusivo y sostenible, el empleo pleno y productivo y el trabajo decente para todos (Objetivo de Desarrollo Sostenible 8).

2. En 2018, el Comité Ejecutivo creado por el Secretario General de las Naciones Unidas estableció una política, un plan de acción y un marco de rendición de cuentas para todo el sistema con el fin de mejorar el rendimiento de las medidas de inclusión de las personas con discapacidad[2] y apoyar los esfuerzos para que nadie se quede atrás[3]. El marco supone un llamamiento para actuar y pasar de la lucha contra la discriminación a la integración de los derechos de las personas con discapacidad[4] en todos los aspectos del funcionamiento de las Naciones Unidas. En consecuencia, la recientemente aprobada Estrategia de las Naciones Unidas para la Inclusión de la Discapacidad manifiesta que todos los organismos de las Naciones Unidas deberían comprometerse a incorporar los derechos de las personas con discapacidad en su labor, tanto en el plano externo, a través de la programación, como en el interno (Naciones Unidas, 2019).

3. De conformidad con los esfuerzos más amplios de las Naciones Unidas y la Convención mencionada, el FIDA se ha comprometido a estudiar la posibilidad de incluir las personas con discapacidad en sus intervenciones y cómo hacerlo[5]. En ese sentido, la principal dificultad es la falta de información con respecto a las actividades económicas de las personas con discapacidad que viven en zonas rurales y la escasez de datos disponibles sobre el nivel actual de inclusión de las personas con discapacidad en las intervenciones del FIDA.

4. Ante este problema, durante la Undécima Reposición de los Recursos del FIDA (FIDA11), el Fondo se ha comprometido a preparar: i) un informe donde se analice el vínculo entre las personas con discapacidad y las intervenciones del FIDA, y ii) una propuesta para desglosar los datos sobre personas con discapacidad en al menos cinco proyectos que se hayan puesto a prueba de manera piloto (compromiso 2.2., medidas objeto de seguimiento 10 y 11, respectivamente). Para llevar a cabo ambas tareas, el FIDA acordó basarse en la labor del Grupo de Washington sobre Estadísticas de la Discapacidad. La finalidad es establecer una base para decidir si se incluye a las personas con discapacidad en las intervenciones del FIDA y cómo hacerlo.

---

[1] Convención de las Naciones Unidas sobre los Derechos de las Personas con Discapacidad y Protocolo Facultativo de la Convención (documento A/RES/61/106, de 2007).

[2] Por "inclusión de la discapacidad" se entiende: i) la participación significativa de una amplia gama de personas con discapacidad; ii) la promoción e incorporación de sus derechos en la labor de la Organización; iii) el desarrollo de programas específicos para las personas con discapacidad, y iv) la consideración de perspectivas relacionadas con la discapacidad, de conformidad con la Convención sobre las Personas con Discapacidad.

[3] Estrategia de las Naciones Unidas para la Inclusión de la Discapacidad (Naciones Unidas: Nueva York, 2019): https://www.un.org/development/desa/disabilities/wp-content/uploads/sites/15/2019/03/UNDIS_20-March-2019_for-HLCM.P.pdf.

[4] Las personas con discapacidad incluyen a aquellas que tengan deficiencias físicas, mentales, intelectuales o sensoriales a largo plazo que, al interactuar con diversas barreras, puedan impedir su participación plena y efectiva en la sociedad, en igualdad de condiciones con las demás (Convención sobre los Derechos de las Personas con Discapacidad, art 1).

[5] Informe de la Consulta sobre la Undécima Reposición de los Recursos del FIDA. Que nadie se quede atrás: la función del FIDA en la Agenda 2030 (Roma, 2018).

5. El presente informe se centra en la primera de esas medidas. Más adelante, el documento ofrece una breve actualización sobre la segunda medida. El objetivo del informe es presentar datos empíricos sobre los vínculos entre las personas con discapacidad y el empleo en las zonas rurales, incluidas las características de las personas con discapacidad, su participación en la fuerza de trabajo agrícola y los tipos de actividades de producción rural en las que participan. Los datos empíricos ayudarán a decidir si las intervenciones del FIDA pueden servir como vía para que las personas con discapacidad salgan de la pobreza.

6. Por consiguiente, en la sección II del informe se examinan los datos empíricos sobre los vínculos entre la discapacidad y la pobreza rural, mientras que en la sección III se presentan las conclusiones de un estudio realizado en Etiopía, Nigeria y la República Unida de Tanzanía basado en datos representativos a nivel nacional, indicadores de las mejores prácticas en materia de discapacidad notificadas por los propios interesados e información detallada sobre las actividades económicas de los hogares rurales que han sido objeto de seguimiento a lo largo del tiempo. La selección de estos países se debe a que son de los pocos que cuentan con datos suficientes para evaluar las actividades económicas de las personas con discapacidad. En la sección IV se describen las consecuencias de los datos empíricos existentes y las nuevas conclusiones para las operaciones del FIDA. En la sección V se presentan las medidas futuras para que el FIDA siga avanzando de acuerdo con la Estrategia de las Naciones Unidas para la Inclusión de la Discapacidad.

II. Antecedentes y enfoque del análisis

7. En la actualidad hay aproximadamente 1 000 millones de personas con discapacidad en el mundo (alrededor del 15 % de la población mundial), de las cuales el 80 % (800 millones) viven en países en desarrollo (Grech, 2011; Mitra et al., 2013). Las estimaciones basadas en el censo sugieren que esta cifra, ya de por sí elevada, va en aumento. No obstante, a pesar del gran número de personas con discapacidad y aunque la recopilación de datos ha mejorado en los últimos años, se han efectuado pocos análisis sobre las actividades económicas de las personas con discapacidad, especialmente en las zonas rurales[6]. Hasta la fecha, la labor de análisis se ha centrado en encuestas cualitativas y estudios de casos limitados a lugares y tipos específicos de discapacidad.

8. De acuerdo con el emblemático primer Informe de las Naciones Unidas sobre Discapacidad y Desarrollo (Naciones Unidas, 2018), las personas con discapacidad de las zonas rurales tienden a estar en desventaja. Los datos de un número limitado de países indican que, en comparación con las personas sin discapacidad de las zonas urbanas y las personas sin discapacidad de las zonas rurales, las personas con discapacidad de las zonas rurales son las que menos probabilidades tienen de haber asistido a la escuela (65 %) y de estar empleadas (13 %). Los partos de madres con discapacidad que viven en zonas rurales son los que tienen menos probabilidades de ser atendidos por personal sanitario cualificado (58 %). Los hogares de las zonas rurales que cuentan con un familiar con discapacidad son los que menos probabilidades tienen de poseer un teléfono móvil (46 %)[7].

9. Si bien el análisis de la incidencia, la distribución y las tendencias de la discapacidad se ve limitado por la falta de datos de alta calidad, los estudios disponibles indican que existe una correlación positiva entre la pobreza y la discapacidad, tanto a nivel individual como familiar, y que la discapacidad se asocia generalmente con la pobreza

[6] Este énfasis en los datos va en consonancia con la Estrategia para la Inclusión de la Discapacidad, que establece que "la falta de datos relacionados con la discapacidad, particularmente datos cualitativos y desglosados, es uno de los principales obstáculos para la evaluación precisa de la inclusión de la discapacidad en los contextos humanitario y de desarrollo" (§26).

[7] Informe sobre discapacidad y desarrollo: consecución de los Objetivos de Desarrollo Sostenible por, para y con las personas con discapacidad (Departamento de Asuntos Económicos y Sociales de las Naciones Unidas: Nueva York, 2019).

multidimensional[8]. Las personas con discapacidad y sus familias se enfrentan a mayores obstáculos para acceder a la educación, los servicios de salud y el empleo[9], y el estigma, la discriminación y las deficiencias físicas juegan un papel importante[10]. Además, dado que es más probable que sean pobres, las personas con discapacidad son más vulnerables a las crisis de salud y poseen menos recursos para hacer frente a esas crisis. Todos estos efectos se traducen en un círculo vicioso[11] en el que la pobreza mina las posibilidades de las personas con discapacidad y de sus familias para hacer frente a las consecuencias adversas de la discapacidad. Es probable que esta dinámica de autorrefuerzo sea aún más evidente en las familias rurales que incluyan personas con discapacidad en los países en desarrollo, que cuentan con una cobertura más limitada en materia de servicios sociales y de salud.

10. Los datos empíricos también muestran las dificultades a las que se enfrentan las personas con discapacidad para acceder a empleos y ganar un salario. Entre las personas con discapacidad, las que viven en zonas rurales y las mujeres son las que tienden a percibir salarios más bajos. En el Perú, en 2012, el 61 % de las personas con discapacidad que vivían en zonas rurales recibían un salario inferior al mínimo, en comparación con el 36 % de las personas con discapacidad que vivían en zonas urbanas y estaban en la misma situación; y el 46 % de las mujeres con discapacidad recibían un salario inferior al mínimo, en comparación con el 37 % de los hombres con discapacidad en su misma situación[12]. Los adultos con discapacidad tienen muchas menos probabilidades de ser empleados que los adultos sin discapacidad[13], y aquellos que trabajan se dedican a actividades de menor productividad y a trabajos peor remunerados[14]. En uno de los pocos estudios que se centraron en las áreas rurales se llegó a la conclusión de que la única razón por la que había personas con discapacidad que no tenían ningún tipo de trabajo era que su discapacidad era extremadamente debilitante[15].

---

[8] Hanass-Hancock, J. y S. Mitra, Livelihoods and Disability: The Complexities of Work in the Global South. En el manual de Grech, S. y K. Soldatic (eds.) (2016): *Disability in the Global South: The Critical Handbook*, págs. 133 a 149, se ofrece una perspectiva mundial, corroborada por los detallados estudios nacionales llevados a cabo por Parodi, G. y D. Sciulli (2008): Disability in Italian households: income, poverty and labour market participation in Applied Economics, 40(20), págs. 2615 a 2630; She, P. y G. A. Livermore, (2007): Material Hardship, Poverty, and Disability Among Working-Age Adults, en *Social Science Quarterly*, 88(4), págs. 970 a 989, en el caso de los Estados Unidos de América, y Mont, D. y N. V. Cuon, (2011): Disability and Poverty in Vietnam, en World Bank Economic Review, 25(2), págs. 323 a 359, para Viet Nam.

[9] Informe Mundial sobre la Discapacidad, directrices aprobadas por el Comité de Examen de Directrices de la OMS (2011); Mitra (2013); Loeb, M., A. H. Eide, J. Jelsma, M. ka Toni y S. Maart, Poverty and disability in Eastern and Western Cape Provinces, South Africa (2008): en *Disability & Society*, 23(4), págs. 311 a 321; Mont y Cuon (2011), y Filmer, D. (2008): Disability, poverty, and schooling in developing countries : Results from 14 household surveys, The World Bank Economic Review, 22 (1), págs. 33 a 61.

[10] Para obtener más información relativa a la estigmatización y la criminalización, véase Foley, D. y J. Chowdhury (2007): Poverty, Social Exclusion and the Politics of Disability: Care as a Social Good and the Expenditure of Social Capital in *Chuadanga, Bangladesh, Social Policy & Administration*, 41(4), págs. 372 a 385; Mitra, S., y U. Sambamoorthi (2008): Disability and the Rural Labor Market in India: Evidence for Males in Tamil Nadu, *World Development*, 36, págs. 934 a 952 y Mitra, S., y U. Sambamoorthi (2009): Wage differential by disability status in an agrarian labour market in India, *Applied Economics Letters*, 16(14), págs. 1393 a 1398.

[11] Elwan, A. (1999): *Poverty and disability: A survey of the literature,* No. 21315, 1; Lustig, D. C. and Strauser, D. R. (2007) Causal relationships between poverty and disability, *Rehabilitation Counseling Bulletin*, *50*(4), 194–202; Trani, J-F. and Loeb, M. (2010): Poverty and disability: A vicious circle? Evidence from Afghanistan and Zambia in *Journal of International Development*, 24(S1), S19–S52; Graham, Moodley and Selipsky (2013); y Pinilla-Roncancio, M. (2015): Disability and poverty: Two related conditions. A review of the literature in *Revista de La Facultad de Medicina*, 63(3Sup), 113 a 123.

[12] *Informe sobre discapacidad y desarrollo: consecución de los Objetivos de Desarrollo Sostenible por, para y con las personas con discapacidad* (Departamento de Asuntos Económicos y Sociales de las Naciones Unidas: Nueva York, Estados Unidos, 2019).

[13] Mactaggart, I., L. M. Banks, H. Kuper, G. V. S. Murthy, J. Sagar, J. Oye, y S. Polack (2018): Livelihood opportunities amongst adults with and without disabilities in Cameroon and India: A case control study, en *PLOS ONE,* 13(4), en el que se emplean controles equiparados por edad y sexo en la India y el Camerún.

[14] Mont y Cuon (2011).

[15] Erb, S. y B. Harriss-White (2002): *Outcast from social welfare: adult disability, incapacity, and development in rural South India;* Huang, J., B. Guo y Y. Kim (2002): Food insecurity and disability: Do economic resources matter? Social Science Research, 39(1), págs. 111 a 124; Nord, M. (2007): Characteristics of low-income households with very low food security: An analysis of the USDA GPRA Food Security Indicator, y She y Livermore (2007) concluyeron que la discapacidad que limita el trabajo aumenta sustancialmente el riesgo de inseguridad alimentaria. Simeu, N. y S. Mitra (2007): Disability and household economic wellbeing: Evidence from Indonesian longitudinal data, en *Oxford Development Studies*, 0(0), págs. 1 a 14, concluyeron que los hogares más pobres con personas con discapacidad hacen frente a la situación reduciendo el gasto destinado a la compra de alimentos.

11. Además, los estudios reflejan diferencias salariales significativas e inexplicables cuando se comparan los ingresos de las personas con discapacidad y de las personas sin discapacidad con características y empleos similares. Estas diferencias podrían basarse en la presencia de estigmatización o discriminación. No obstante, según los estudios, las personas con discapacidad perciben una remuneración inferior incluso en las empresas familiares, en las que estos factores no deberían influir[16]. Es importante reseñar que, desde la perspectiva de mejorar los ingresos del hogar y reducir la pobreza, la discapacidad también puede afectar a la posibilidad de los familiares de personas con discapacidad de obtener mayores ingresos[17], ya que la presencia en el hogar de una persona con una discapacidad que limita sus posibilidades laborales puede reducir el horario de trabajo de otras personas adultas dedicadas a sus cuidados.

12. Aunque proporciona información útil, la mayor parte de los estudios especializados sobre las personas con discapacidad se resiente debido a las limitaciones de los datos. Por una parte, los datos relativos a la discapacidad se han recopilado tradicionalmente en encuestas y censos basados en la información presentada por los propios interesados, y en ellos se exige a los encuestados que se clasifiquen a sí mismos como personas con discapacidad y no se incluye un conjunto claro de preguntas para aclarar esa definición. Es probable que esto dé lugar a una significativa falta de información. Para superar estas limitaciones, el Grupo de Washington sobre Estadísticas de la Discapacidad ha elaborado el minicuestionario sobre discapacidad (véase el anexo I), cuyo objetivo es reflejar las dificultades de las que han informado los propios interesados mayores de cinco años para oír, ver, caminar o subir escaleras, recordar o concentrarse, cuidar de sí mismos, entender o hacerse entender. Las preguntas están pensadas para evitar específicamente los problemas tradicionales a los que se enfrentan los cuestionarios relacionados con la discapacidad, ya que no exigen a las personas encuestadas que se identifiquen ni que califiquen a otros sujetos como personas con discapacidad[18].

13. Incluso cuando los datos sobre las personas con discapacidad han sido recopilados adecuadamente, los esfuerzos de recopilación rara vez incluyen preguntas sobre las actividades económicas en las zonas rurales. Sin esos datos, es difícil determinar si las personas con discapacidad realizan actividades similares y en la misma medida que el resto de la población rural. Asimismo, tampoco es posible entender de qué manera repercute la presencia de personas con discapacidad en las actividades económicas de los hogares en los que viven.

14. Por último, muchos estudios anteriores se han basado en datos recopilados a partir de la observación de varias personas con discapacidad en el mismo momento o no han prestado atención a las diferencias en distintos momentos. Los datos recopilados en un único momento de observación dificultan la identificación de nexos casuales entre las personas con discapacidad y las condiciones de vida. Los datos de panel, recopilados en los mismos hogares y referidos a las mismas personas a lo largo del tiempo, pueden abordar esas deficiencias.

[16] Mont y Cuon (2011).
[17] Nord (2007).
[18] El Grupo de Washington sobre Estadísticas de la Discapacidad es el método preferencial utilizado por los organismos de las Naciones Unidas, la sociedad civil y expertos independientes para el seguimiento del Objetivo de Desarrollo Sostenible y la medición de la población mundial de personas con discapacidad. También es la herramienta recomendada para recopilar información sobre la discapacidad para la próxima ronda de censos, que tendrá lugar en 2020 (Groce y Mont, 2017).

III. Los medios de vida de las personas con discapacidad que viven en zonas rurales

15. Los datos empíricos que se presentan a continuación proceden de un estudio encargado por el FIDA sobre las actividades económicas de las personas con discapacidad en las zonas rurales (el informe completo puede consultarse en el apéndice)[19]. El estudio se centró en los medios de vida rurales y se basó en las definiciones de discapacidad[20] del Grupo de Washington sobre Estadísticas de la Discapacidad y en los datos de panel. El equipo de investigación aprovechó especialmente los conjuntos de datos de panel disponibles derivados de cuestionarios comparables en tres países africanos: Etiopía, Nigeria y la República Unida de Tanzanía (recuadro 1). Esos conjuntos de datos son únicos en el sentido de que superan las tres limitaciones de otros conjuntos de datos: aplican el marco establecido por el Grupo de Washington sobre Estadísticas de la Discapacidad; contienen detalles de las actividades económicas de los hogares y las personas del medio rural, y conllevan múltiples rondas de recopilación de datos.

Recuadro 1
Datos utilizados para el estudio de las personas con discapacidad y las actividades económicas rurales en el África Subsahariana

Este estudio, encargado por el FIDA, utilizó datos de panel del Estudio de Medición de los Niveles de Vida - Encuestas Integradas sobre Agricultura (LSMS-ISA) para Etiopía, Nigeria y la República Unida de Tanzanía. Se recopilaron tres "tandas" de datos por cada país. Las encuestas del LSMS-ISA recopilan información relativa a todas las actividades económicas para muestras representativas a escala nacional y de la población rural del país.

Con arreglo al marco del Grupo de Washington sobre Estadísticas de la Discapacidad para personas mayores de cinco años, el cuestionario LSMS-ISA expresa la condición de discapacidad a través de seis preguntas que evalúan las dificultades de los propios encuestados para oír, ver, caminar o subir escaleras, recordar o concentrarse, el cuidado personal, entender o hacerse entender. El hecho de que estas preguntas del cuestionario sean muy similares entre países y años brinda una oportunidad única para el análisis con datos de panel entre países.

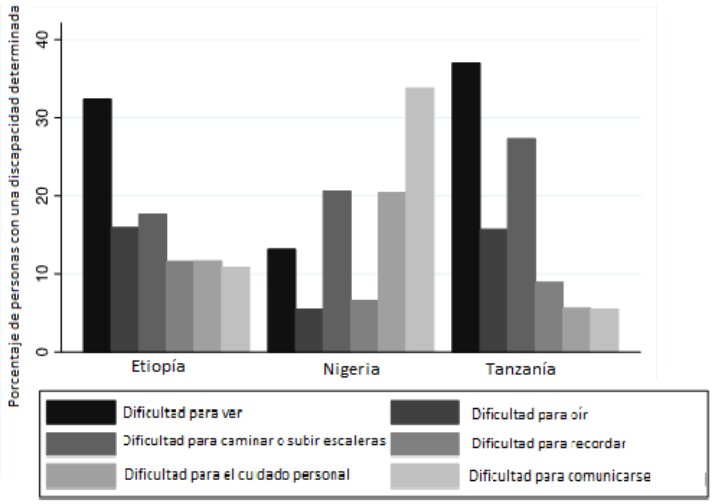
País	Primera tanda	Segunda tanda	Tercera tanda
Etiopía	2011/2012	2013/2014	2015/2016
Nigeria	2010/2011	2012/2013	2015/2016
República Unida de Tanzanía	2008/2009	2010/2011	2012/2013

16. El análisis del FIDA examinó la relación entre la discapacidad y las diferentes variables de resultado relacionadas con las actividades económicas y la pobreza. La condición de discapacidad se desglosó con arreglo a: i) todos los tipos de discapacidad; ii) la discapacidad física, y iii) la discapacidad grave, y las variables de resultado fueron agrupadas en función de: i) pobreza; ii) seguridad alimentaria; iii) actividades económicas, y iv) variables de uso del tiempo medidas individualmente. Las variables de resultado sobre la pobreza y la seguridad alimentaria se evaluaron mediante datos objetivos y subjetivos proporcionados por los cabezas de familia. La información acerca de las actividades económicas fue facilitada por los cabezas de familia y abarca tanto la participación en diferentes tipos de actividades económicas como los ingresos.

[19] Tiwari, W., S. Savastano, M. Improta y P. Winters (2019, de próxima publicación): *Rural economic activities and persons with disabilities in Sub-Saharan Africa*.
[20] Según el Grupo de Washington sobre Estadísticas de la Discapacidad, las personas con discapacidad presentan "muchas dificultades" en relación con las siguientes funciones: i) dificultad para ver, incluso con anteojos; ii) dificultad para oír, incluso con audífono; iii) dificultad para caminar o subir escaleras; iv) dificultad para recordar o concentrarse; v) dificultad para el cuidado personal, incluidas tareas como lavarse o vestirse, o vi) dificultad para comunicarse (por ejemplo, para entender o hacerse entender).

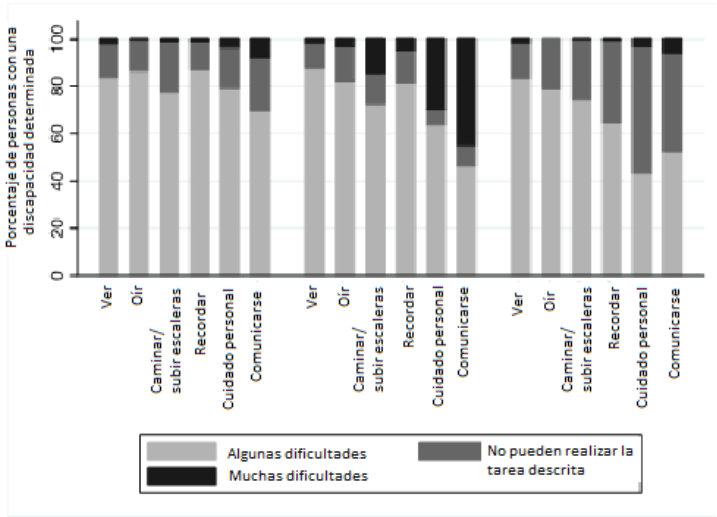
17. En términos demográficos y de tipo de discapacidad, los gráficos 1 y 2 presentan la proporción por país de personas con diferentes tipos de discapacidad y la gravedad de la discapacidad, respectivamente. Por término medio, el 8 % de la población rural de Etiopía, el 6 % de la de Nigeria y el 7 % de la población de la República Unida de Tanzanía tiene algún tipo de discapacidad. En Etiopía y la República Unida de Tanzanía, la proporción de personas con discapacidades físicas es mayor que la de personas con discapacidades cognitivas, y la incidencia de las discapacidades cognitivas es mayor en Nigeria que en los otros dos países. Por lo que respecta a la gravedad, la mayoría de las personas con discapacidad afirmaron tener solo "algunas dificultades" (alrededor del 80 % en Etiopía y el 65 % en Nigeria y la República Unida de Tanzanía). Aunque no queda claro por qué existen diferencias entre países o tipos de discapacidad, conviene destacar que, a diferencia de la discapacidad visual o la auditiva, que se clasifican por niveles, la comunicación y el cuidado personal pueden tener un carácter más binario: una persona tiene dificultades para comunicarse o no las tiene.

Gráfico 1
Proporción de personas con distintos tipos de discapacidad



Fuente: Tiwari, W., S. Savastano, M. Improta y P. Winters, *Rural economic activities and persons with disabilities in Sub-Saharan Africa* (véase el apéndice).

Gráfico 2
Gravedad de la discapacidad en función del tipo



Fuente: *Ibidem.*

18. De conformidad con otros análisis descriptivos, el estudio puso de manifiesto que tener una discapacidad está asociado con una mayor probabilidad de vivir en un hogar de bajos ingresos; sin embargo, esto se refleja en diferentes indicadores en cada uno de los tres países. En Etiopía, por ejemplo, los hogares con personas con discapacidad tienen niveles más bajos de ingresos y gastos que los hogares sin personas con discapacidad. No obstante, en Nigeria, los hogares con personas con discapacidad obtienen menos ingresos, pero los niveles de gasto son similares. La agricultura parece brindar una proporción similar de ingresos a los hogares con personas con discapacidad en los tres países. En cambio, otros elementos de sustento de las personas con discapacidad, como la dependencia de las transferencias y la capacidad de participar en diversos tipos de actividades no agrícolas, varían de un país a otro. Ese puede ser también el caso de las características de los programas a los que las personas con discapacidad pueden acceder en diferentes países.

19. El análisis en profundidad de los determinantes de la pobreza y la seguridad alimentaria, los tipos de actividades económicas desempeñadas y el uso individual del tiempo reveló diferencias significativas entre los países, pero también puso de relieve puntos en común (véase el cuadro 1).

20. En primer lugar, si bien los hogares con al menos una persona con discapacidad tienden a estar asociados con algún indicador de pobreza –como el bajo nivel de ingresos o gastos–, los efectos de la discapacidad sobre la mayoría de los aspectos de la pobreza desaparecen cuando se examinan las características del hogar y del cabeza de familia. En otras palabras, el vínculo entre la discapacidad y la pobreza no es directo, sino que se ve influido por diversos factores. Por lo tanto, es posible determinar puntos de entrada para desvincular la discapacidad de la pobreza.

21. En segundo lugar, los datos muestran que existen diferencias significativas a nivel nacional en las oportunidades que tienen a su disposición las personas con discapacidad y sus familiares. Al examinar la proporción de ingresos que representan los medios de vida de los hogares y la información sobre el uso del tiempo, los datos empíricos indican que, cuando la participación en actividades agrícolas es alta (por ejemplo, en Etiopía y la República Unida de Tanzanía), los hogares con personas con discapacidad tienen una mayor probabilidad de padecer inseguridad alimentaria. Ello podría sugerir que los esfuerzos que los miembros de la familia dedican a cuidar a un familiar con discapacidad desvían recursos destinados a garantizar la seguridad alimentaria del hogar.

Cuadro 1
Resumen de las principales conclusiones de la regresión con datos de panel por país

País	*Pobreza e inseguridad alimentaria*	*Medios de vida*	*Datos sobre el uso del tiempo*
Etiopía	Desaparece la diferencia entre los hogares con y sin personas con discapacidad en términos de ingresos o de gastos de consumo. Los hogares con personas con discapacidad tienen más probabilidades de padecer inseguridad alimentaria.	Los hogares con personas con discapacidad reciben una mayor proporción de los ingresos de los salarios y las transferencias por actividades agrícolas. Esto último se aplica en particular en el caso de los hogares en los que vive una persona con discapacidad severa.	La discapacidad reduce la probabilidad de participar en actividades agrícolas, pero no altera la probabilidad de participar en actividades no agrícolas.
Nigeria	Los hogares con personas con discapacidad tienen más probabilidades de estar en los dos quintiles inferiores, pero los niveles generales de ingresos no difieren de los de otros hogares.	Los hogares con personas con discapacidad tienen menos probabilidades de dedicarse a actividades no agrícolas y más probabilidades de recibir transferencias.	En general, las personas con discapacidad tienen menos probabilidades de trabajar, ya sea realizando trabajos agrícolas, no agrícolas u otros trabajos remunerados.
República Unida de Tanzanía	Los hogares con personas con discapacidad tienen más probabilidades de estar en los dos quintiles inferiores por lo que respecta al gasto no alimentario y en educación, y son más proclives a padecer inseguridad alimentaria.	Los hogares con personas con discapacidad no tienen medios de vida diferentes de los de los hogares sin personas con discapacidad.	No existen diferencias en el uso del tiempo, ni en general ni por género, entre las personas con discapacidad y las personas sin discapacidad.

Fuente: *Ibidem.*

22. Además, los datos muestran que las personas con discapacidades participan en diversas actividades que ofrecen vías para complementar los ingresos familiares. La naturaleza de esas actividades varía según el país: en Etiopía y Nigeria, las personas con discapacidad tienen menos probabilidades de trabajar en la agricultura que en actividades no agrícolas; este patrón está fuertemente influenciado por el género en Nigeria. En Etiopía, donde las personas con discapacidad tienen la misma probabilidad de trabajar en actividades no agrícolas que las personas sin discapacidad, las mujeres tienen menos probabilidades de hacerlo.

23. El análisis de la discapacidad que puede verse a continuación, en el cuadro 2, se desgrana de la siguiente manera: i) cualquier tipo de discapacidad; ii) discapacidad grave, y iii) discapacidad física ("motora")[21]. Los datos muestran que, a excepción de Nigeria, las personas con discapacidad tienen más probabilidades que otras de ser pobres y padecer inseguridad alimentaria, independientemente del tipo de discapacidad. Como puede verse en el cuadro 2, existe una correlación positiva entre la discapacidad y los medios de vida. Tanto el hecho de tener una discapacidad física como la intensidad de esa discapacidad parecen ser perjudiciales para la actividad económica en Etiopía y Nigeria. Por último, parece existir una correlación indirecta consistente entre el uso del tiempo y la discapacidad, especialmente en el caso de las discapacidades graves. No obstante, siempre y cuando no sea grave, no parece que la discapacidad física constituya un impedimento para que las personas participen en actividades agrícolas ("uso del tiempo dedicado a la agricultura").

[21] Se entiende por discapacidad motriz o física cualquier problema para ver, oír, caminar o subir escaleras.

Cuadro 2
Relación entre la discapacidad y los medios de vida rurales

	Etiopía			*Nigeria*			*República Unida de Tanzanía*		
Tipo de discapacidad/resultados	*Any*	*Severe*	*Motor*	*Any*	*Severe*	*Motor*	*Any*	*Severe*	*Motor*
Pobreza e inseguridad alimentaria	**+**	**+**	**+**	**+**	**NS**	**+**	**+**	**+**	**+**
Medio de vida	**+**	**-**	**+**	**+**	**-**	**-**	**NS**	**NS**	**-**
Uso del tiempo dedicado a la agricultura	**-**	**-**	**+**	**-**	**-**	**+**	**NS**	**NS**	**NS**

Nota: **+** indica una relación directa significativa entre el tipo de discapacidad y el indicador de resultados; **-** refleja una relación indirecta; **NS** muestra la inexistencia de una relación estadísticamente significativa.
Fuente: *Ibidem.*

IV. Consecuencias para las operaciones del FIDA

24. Los resultados del análisis entrañan dos consecuencias fundamentales para las operaciones del FIDA. En primer lugar, tanto los datos de la fuente de ingresos como los del uso individual del tiempo reflejan que, en las zonas rurales, las personas con discapacidad y sus hogares son económicamente activos. Por lo tanto, las personas con discapacidad pueden participar activamente en proyectos de desarrollo que se adapten a los perfiles específicos de sus discapacidades.

25. En segundo lugar, si bien existe una relación entre la discapacidad y los bajos ingresos, los datos muestran que ese vínculo no es directo y que existen puntos de entrada para romperlo. De hecho, el análisis de los datos de panel sugiere que hay elementos individuales que impulsan ese vínculo y que las intervenciones en el marco del proyecto pueden centrarse en abordarlos. Por ejemplo, las personas con discapacidad podrían enfrentarse a costes prohibitivos en términos de movilidad para llegar al trabajo: abordar directamente esos problemas facilitaría su incorporación al mercado laboral.

26. El FIDA está empezando a integrar la discapacidad en sus operaciones y en su labor analítica. Si bien se trata de un enfoque concebido ex profeso en el que se formulan y supervisan intervenciones específicas orientadas a las personas con discapacidad, cabe destacar la experiencia del FIDA en diferentes países y regiones (véase el recuadro 2). Los proyectos se han dirigido directa y/o indirectamente a las personas con discapacidad y han formulado medidas específicas o adaptado las actividades en consecuencia. Estos proyectos, entre otros, fundamentarán las intervenciones futuras del FIDA y su enfoque institucional con respecto a las personas con discapacidad.

Recuadro 2
Inclusión de las personas con discapacidad en las intervenciones del FIDA

Camerún
En 2014 se puso en práctica el Programa de Promoción de la Iniciativa Empresarial de los Jóvenes en el Sector Agropastoral en cuatro regiones que albergan en torno al 40 % de la población joven de las zonas rurales del país. El Programa no solo presta atención a los jóvenes, sino que cuenta también con un importante componente de inclusión social. Con el objetivo de contribuir a una economía más inclusiva, el programa ha beneficiado a uno de los grupos más marginados de Camerún, a saber, las personas con discapacidad. Para identificar y seleccionar a los jóvenes que viven con discapacidades e involucrarlos en las actividades del programa se sigue un proceso de focalización social. El proceso se basa en los principios de equidad y accesibilidad de la información para todos, y la información relacionada con las oportunidades se comunica a las zonas más remotas mediante diversos canales y a través de mensajes en francés, inglés e idiomas locales. Una vez identificados los posibles beneficiarios, la selección se realiza en base a la preparación y la voluntad demostradas para emprender un proceso de incubación. Se da prioridad a los jóvenes de edades comprendidas entre los 18 y los 35 años procedentes de contextos socioeconómicos especialmente desfavorecidos, con experiencia demostrada en la realización de actividades agropecuarias y con discapacidades motrices. El programa asegurará la integración de al menos 150 jóvenes con discapacidad a través de iniciativas empresariales agropastorales.

China
El FIDA ha concebido con éxito una asociación con la Federación de Personas con Discapacidad de China, con el objetivo de mejorar las aptitudes de las mujeres de las zonas rurales y de las personas con discapacidad que son económicamente capaces de generar empleo e ingresos. Esta asociación se ha desarrollado en el contexto del Proyecto de Reducción de la Pobreza en la Zona Montañosa de Liupan en Qinghai, que tiene un componente específico de apoyo a los medios de vida no agrícolas para las mujeres y las personas con discapacidad que son económicamente capaces. La Federación de Personas con Discapacidad de China y las oficinas de empleo de los condados se ocupan de coordinar ese componente. Se ha impartido formación a 720 personas con discapacidad de aldeas rurales pertenecientes a cinco condados, y se han cumplido plenamente los objetivos. El proyecto seguirá llevando a cabo actividades de formación en otros tres condados en 2019 y 2020. El componente generó buenas iniciativas y sólidas asociaciones entre los organismos de ejecución, las instituciones de formación, las oficinas gubernamentales de fomento del empleo y las empresas de contratación.

Honduras
Como parte del Proyecto de Competitividad y Desarrollo Sostenible del Corredor Fronterizo Sur Occidental de Honduras, los tejedores tradicionales y otros artesanos, incluidas las personas con discapacidad, están recibiendo apoyo para desarrollar sus microempresas y acceder a los mercados. El FIDA está trabajando con el Centro Integral Misión de Amor, cuya finalidad es crear oportunidades de sustento para los jóvenes con discapacidades. En el marco del proyecto, 18 jóvenes que presentan sordera u otras discapacidades han aprendido a tejer en telares tradicionales y a coser el tejido en ropa y accesorios. Han recibido formación especializada en costura, gestión, comercialización y compras. El proyecto también ha concedido donaciones para mejorar las instalaciones y la maquinaria. Como el costo y el suministro de hilo suponen un problema para varias de las empresas artesanales participantes, el proyecto está tratando de ayudarlas a obtener colectivamente materia prima de Guatemala. También se están manteniendo conversaciones con las autoridades locales sobre la posibilidad de crear un mercado de artesanos en el que los grupos puedan vender sus productos a los turistas.

27. Por último, en cuanto a la recopilación de datos sobre las personas con discapacidad, el FIDA se comprometió a elaborar una propuesta para desglosar los datos sobre personas con discapacidad en las intervenciones del FIDA y utilizarla experimentalmente al menos en cinco proyectos, con arreglo a la metodología utilizada por el Grupo de Washington sobre Estadísticas de la Discapacidad (FIDA11, medida objeto de seguimiento n.º 11). Se ha completado la selección inicial de los proyectos, y el minicuestionario del Grupo de Washington sobre Estadísticas de la Discapacidad se aplicará a los proyectos que figuran en el cuadro 3.

Cuadro 3
Proyectos seleccionados para la actividad piloto

Asia y el Pacífico	Nepal: Proyecto de Adaptación Orientada a los Pequeños Agricultores en las Zonas Montañosas
África Oriental y Meridional	Malawi: Programa de Fomento del Riego en las Zonas Rurales
América Latina y el Caribe	Brasil: Proyecto de Desarrollo Sostenible en Carirí y Seridó
Cercano Oriente, África del Norte y Europa	Georgia: Proyecto de Modernización del Sector Lácteo y Acceso a los Mercados
África Occidental y Central	Liberia: Segunda fase del Proyecto de Ampliación de los Cultivos Arbóreos

28. Además de este proyecto piloto, la fase II del Programa de Desarrollo Rural en las Islas Salomón ha generado datos significativos sobre las personas con discapacidad, que se están recopilando a través del sistema de presentación de informes del Banco Mundial, que es uno de los cofinanciadores. Los datos incluyen información sobre personas con discapacidad en 1 570 aldeas de las nueve provincias del proyecto. Esta recopilación de datos, combinada con la actividad piloto, debería proporcionar la base para un futuro sistema de recopilación de datos del FIDA sobre personas con discapacidad.

V. De cara al futuro

29. Los datos y los estudios existentes indican que las personas con discapacidad que viven en el medio rural son económicamente activas, tienen el potencial de generar ingresos y, por lo tanto, también tienen la posibilidad de seguir vías productivas para salir de la pobreza. Además, los hogares en los que viven se ven afectados por su presencia. Estas conclusiones, junto con las experiencias y lecciones aprendidas por otras organizaciones internacionales, pueden fundamentar la programación del FIDA sobre las personas con discapacidad y facilitar la identificación del mejor enfoque para su posible inclusión en las intervenciones del Fondo.

30. El FIDA continuará trabajando en la elaboración de su base de conocimientos en esta área y en la identificación de puntos de entrada para apoyar a las personas con discapacidad en sus operaciones. Esta labor contribuirá a los esfuerzos más amplios del sistema de las Naciones Unidas para lograr progresos sostenibles y transformadores en materia de inclusión de las personas con discapacidad en todos los aspectos de su labor.

Indicadores del Grupo de Washington sobre Estadísticas de la Discapacidad

El análisis que se presenta en este informe se basa en los datos recopilados por el Grupo de Washington sobre Estadísticas de la Discapacidad.

El Grupo de Washington elaboró, verificó y aprobó un minicuestionario para su uso en los censos y encuestas nacionales. Las preguntas reflejan avances en la conceptualización de la discapacidad y emplean como marco conceptual la Clasificación Internacional del Funcionamiento, de la Discapacidad y de la Salud de la Organización Mundial de la Salud.

Ese minicuestionario se compone de seis preguntas:

1. ¿Tiene dificultad para ver, incluso si usa anteojos?
2. ¿Tiene dificultad para oír, incluso si usa audífono?
3. ¿Tiene dificultad para caminar o subir escaleras?
4. ¿Tiene dificultad para recordar o concentrarse?
5. ¿Tiene dificultad para realizar tareas de cuidado personal, como bañarse o vestirse?
6. Al expresarse de forma habitual, ¿tiene dificultades para comunicarse, por ejemplo, para entender o hacerse entender?

Cada pregunta tiene cuatro posibles respuestas:

1. No, ninguna dificultad
2. Sí, alguna dificultad
3. Sí, mucha dificultad
4. No puede hacer la actividad en absoluto

Rural Economic Activities and Persons with Disabilities in Sub-Saharan Africa

Smriti Tiwari[1], Sara Savastano[2], Martina Improta[2], Paul C. Winters[2]
[1] Skidmore College, [2] IFAD

Highlights[22]

1. The paper studies the effect of disability on poverty and economic activities in rural areas of three sub-Saharan countries using panel data and fixed effect model.
2. When time varying observable and unobservable characteristics are controlled, the positive association between disability and poverty – commonly established in the literature – does not exist.
3. In rural areas where there is a higher reliance on on-farm activities, having a persons with disability in the household increases the likelihood of food insecurity.
4. Households with persons with persons with disabilities have statistically higher or equal participation in certain income generating activities.

Abstract

While analysis on the incidence, distribution and trends in disability are limited due to the lack of appropriate data, the available studies have found a positive correlation between poverty and disability both at individual and household level, and that disability is generally associated with multidimensional poverty. The goal of this study is to not only re-evaluate the disability and poverty relationship using panel data and fixed effect model but also to study the role of disability status in affecting economic activities of persons with disabilities and their families in the rural contexts of three sub-Saharan African countries – Ethiopia, Nigeria and The United Republic of Tanzania. Households with persons with disabilities are not more likely to be poorer when observable and unobservable characteristics are controlled. This is potentially because households with persons with disabilities are either equally or more active in certain income generating activities as households without persons with disabilities. Individual time-use analysis demonstrates that even persons with disabilities are equally likely to participate in income generating activities as person without disabilities. The results on economic activities show that there are variations by the type of economic activity, gender, severity, and type of disability. This elevates the current knowledge, which has only established that persons with disabilities are on average more likely to reduce their participation in the labor market. Consistent with the current knowledge, households with persons with disabilities in areas where there is a higher reliance on on-farm activities for income are significantly more likely to be food insecure.

Keywords: persons with disabilities; rural economic activities; panel data; fixed effect models

[22] Acknowledgement: This paper is funded by The International Fund for Agricultural Development (IFAD). The authors thank Sohie Mitra for her invaluable input.

With few censuses, surveys, and sources of information on disability, especially in developing countries, it is challenging to quantify its prevalence precisely (*New UN Report on Disability and Sustainable Development Goals | United Nations Enable*, 2018). While acknowledging the difficulty of such an estimation, the World Health Organization retained a consistent estimate of roughly 10 percent of the world population to have some kind of disability throughout the latter part of 20th century. By this estimate, the number of persons with disabilities (PwD) would be around 370 million in 1970 and 600 million towards the end of the century (World Report on Disability 2011, 2011). By 2011, this prevalence estimate was revised to 15 percent of the world population – around a billion person worldwide (Grech, 2013; Mitra, Posarac, & Vick, 2013; World Report on Disability 2011, 2011).

A significant proportion of the disabled population resides in developing countries. According to the World Health Organization, around 82% of the disabled (800 million) were in developing countries in 2011 (Grech, 2011; Mitra et al., 2013). The available estimates, although still not precise, suggests that the number of PwD is significantly high and on the rise. However, despite the large number, little is known about the economic lives of PwD, especially in the context of rural areas in developing countries.

Current literature on disability predominantly constitutes studies that establish the positive correlation between disability and poverty. (Hanass-Hancock & Mitra, 2016) give a general worldwide perspective positing that PwD are significantly more likely to be poor. There are some country-specific studies that explore this relationship in the context of developed countries and find consistent results. Parodi & Sciulli (2008) and She & Livermore (2007) present evidence of higher poverty rates among disabled person in the context of Italy and the United States respectively. In the context of developing countries, positive correlation between disability and specifically poverty rate is evident in Vietnam (Mont & Cuon, 2011).

A significant portion of the literature explores the relationship between disability and multidimensional aspects of poverty. World Report on Disability 2011 (2011) reports that PwD have lower education achievements, poorer health, and fewer economic opportunities and activities. In a cross-country study done by Mitra et al. (2013) using data from Burkina Faso, Ghana, Kenya, Malawi, Mauritius, Zambia, Zimbabwe, Bangladesh, Lao PDR, Pakistan, Philippines, Brazil, Mexico, and Paraguay, disability is found to be significantly associated with higher multidimensional poverty. PwD had lower educational attainment, lower employment rates, and higher medical expenditures. The positive correlation between disability and educational attainment is evident in other contexts such as South Africa (Loeb, Eide, Jelsma, Toni, & Maart, 2008) and Vietnam (Mont & Cuon, 2011). In a cross-country study using data from Bolivia, Cambodia, Chad, Colombia, India, Jamaica, Romania, Burundi, Mongolia, Indonesia, Mozambique, South Africa, Zambia, Filmer (2008) finds that individuals between the ages of six and 17 with disabilities are significantly less likely to start school or to be enrolled at the time of the survey. Additionally, the study finds that the school participation deficit associated with disability is found to be larger than deficits related to other characteristics, such as gender, rural residence, or economic status differentials.

A synthesis of the available evidence reveals a vicious cycle between disability and multidimensional poverty as is discussed in the existing literature (Elwan, 1999; Lustig & Strauser, 2007; Trani & Loeb, 2010; Graham, Moodley, & Selipsky, 2013; Pinilla-Roncancio, 2015). In summary, being excluded from basic opportunities and amenities related to education, health, and employment, PwD are likely to be poorest of the poor. Poverty further marginalizes PwD. With limited access to basic necessities, person will be less likely to prevent and/or cure illnesses, injuries or impairments (Pinilla-Roncancio, 2015). The compound effect of poverty and disability is likely to make PwD and their families even more marginalized. Marginalization of PwD and their families may also come from their geographical location. Rural areas are home to 80 percent of the extreme poor and 75 percent of the moderately poor (Castaneda Aguilar et al., 2016) The focus on rural areas is

also important because access to health care can be differentially lower making PwD residing in rural areas even more vulnerable.

Furthermore, among PwD, Emmett & Alant (2006), Fine (2009) and Kiani (2009) find that women with disabilities may be more marginalized than men with disabilities. In a qualitative study in Cameroon, Kiani (2009) finds women with disabilities face "three-fold discrimination as a result of their sex, perceived inability, and low socio-economic status". Although there exists a handful of policies put in place for poverty reduction specifically catered to women, development policies that cater to the specificities of the needs of PwD and those of their families are largely absent and less informed by analyses based on suitable data.

While analyzing the link between measures of poverty and disabilities is critical, there is a need to understand the economic activities of PwD and their families using adequate data in order to better cater policies to their needs. However, quantitative studies on the economic activities of PwD and their families in the context of developing countries have been limited and predominantly use cross-sectional data, which can create issues. As a result, the policies that have been recommended may be misleading. Even though cross-sectional data can be useful in describing the correlation between disability and economic outcomes, panel data is preferred to establish causal links.

Additionally, given the challenges faced by PwD and their families, policies are often proposed to provide support. Many of the policies are justifiably linked to social programs, but some also seek to provide economic opportunities for PwD. The objective of providing economic opportunities would be to provide a means for PwD to overcome the constraints they face, improve their livelihoods and potentially escape poverty. Since the number of rigorous empirical studies on disabilities, particularly on economic activities of PwD in developing countries, are limited, the policy recommendations based on the available analysis may not be adequate.

Quantitative studies using panel data and appropriate econometric models have only started to emerge recently in the literature. Although the results from the cross-country study by Mitra (2018) confirms the positive correlation between disability and deprivation, it does not find a consistent positive link between disability and poverty. Mitra (2018c) concludes that although PwD and their households make a significantly higher share of the poor, not all PwD and their households are poor. Mitra (2018c) also notes that there are no differences between person with and without disabilities when fixed effect model is used and other characteristics are controlled.

With regards to economic activities, PwD have a higher chance of leaving work in Ethiopia (one of the countries in our study) (Mitra, 2018c) and in Indonesia (Mani, Mitra, & Sambamoorthi, 2018). However, because data that incorporates disability status as well as labor activities are not easily available, the literature lacks a thorough and rigorous research on what economic activities of PwD and their households are (Hanass-Hancock & Mitra, 2016). The contribution of this paper is to take steps to fill this gap. If it is evident from our data analysis that disability does negatively affect economic activities among rural PwD and households with PwD, poverty reduction policies can be better catered to benefit PwD and their families. This is done by using data from three countries in in Sub-Saharan Africa (Ethiopia, Nigeria and Tanzania) that have LSMS data that includes detailed information on economic activities as well as questions on disability following the Washington Group short questions. The data is panel in nature allowing to address some of the issues of causality although not all.

Rural economic activities and disability: a conceptual framework

Prior to analyzing the available data, the conceptual link between disability and economic activities needs to be considered. As pointed out in the previous section, a significant portion of the current literature on disability explores the link between disability and poverty

using cross-sectional data and concludes that disability and poverty and multidimensional poverty are negatively correlated.

As a first step, we test this link using panel data and fixed effect model. One pathway through which disability could potentially cause poverty is by deterring economic opportunities and activities. Mitra & Sambamoorthi (2008) provides a mainstream perspective on how PwD may be excluded from labor markets. PwD are likely to have a higher reservation wage given that they face higher cost of working (getting to workplace and do the work). PwD are likely to have lower marginal product of labor because disability can make a person less productive. Further, labor theory of discrimination points to the fact that employers may prefer person without disabilities to PwD.

The social and economic marginalization of PwD is well-documented. There is ample evidence in the literature that suggests that the lower educational attainment, poorer health outcomes, and higher medical expenses among PwD could be due to lower or no access to proper education system and health care. Trani & Loeb (2010) find evidence of lower access to health care and education for PwD in Afghanistan and Zambia. Eide & Ingstad (2013) confirms substantial gaps in access to services in South Africa. Disability in developing countries stems largely from preventable impairments associated with communicable, maternal and perinatal disease and injuries (Elwan, 1999). Even though they are preventable and curable, many disabled person are unable to seek medical attention because many live in rural areas that have little or no access to healthcare and rehabilitation centers (Elwan, 1999; *World Report on Disability 2011*, 2011; *New UN Report on Disability and Sustainable Development Goals | United Nations Enable*, 2018).

With limited access to education and employment, disability can lead to economic and social exclusion. Foley & Chowdhury (2007) find that PwD and their families are more likely to face social exclusion and stigma of disability, which makes it less likely for them to access formal services in Chuadanga, Bangladesh. Mitra & Sambamoorthi (2008) finds that differences in human capital and productivity could not explain the employment gap between men with and without disability. They attribute the gap to differential returns to characteristics and from discrimination in access to employment. In another similar study, even after controlling for selection bias, Mitra & Sambamoorthi (2009) find an eight percent wage gap that cannot be explained between individuals with and without disabilities in the context of an agrarian labor market in rural Uttar Pradesh in India.

Given these challenges, it is not surprising that PwD have less economic opportunities and activities (Loeb et al., 2008; Mitra, 2006). Mactaggart et al. (2018) find that adults with disabilities were five times less likely to be working compared to age-sex matched controls in India and Cameroon. Mont & Cuon (2011) find that PwD have lower productive economic activity in general and lower wage employment. With lower access to the labor market, PwD could be limited to working at the household business. But even then, their economic activity in household businesses is found to be lower (Mont & Cuon, 2011). Additionally, Nord (2007) argues that having a household member with work-limiting disability can reduce work hours of other adult caretakers. Huang et al. (2010), Nord (2007) and She & Livermore (2007) find that work-limiting disability substantially increases the risk of food insecurity. Simeu & Mitra (2019) find that poorest households with PwD cope by reducing food expenditures.

There is limited research on the economic activities of PwD in rural areas, where access to education, health care, and employment is even sparser. As such, PwD in rural areas can be further marginalized due to their location. An anthropological study done by Erb & Harriss-White (2002) in agrarian context finds that majority of PwD were economically active in wage or domestic work leading them to conclude that perhaps only the most severe cases of disability and/or extreme old age that disabled village adults do not work. Given the constraints and disadvantages faced by households with PwD, especially in rural areas, are their decisions and outcomes regarding agricultural and non-agricultural activities and outcomes different?

The adverse effects of disability are also shouldered by the families of PwD as they may have to compensate for having an additional dependent if a disabled person cannot work or cannot to a full extent. Some members may also have to spend more time in caregiving and less on wage labor. How does this affect the economic activities of households with PwD in general? On the one hand, members of the households with PwD could spend more time taking care of the PwD and other household chores, leaving them fewer hours for wage labor. On the other hand, members of households with PwD could work for wage more to compensate for the lost wages.

It should also be noted that the relationship between disability and poverty related outcomes as well as economic activities is endogenous. Disability and poverty can cause each other but they can also be jointly determined. Additionally, disability is not randomly assigned to individuals, which makes establishing causality difficult. As such, analyses that solely look at the differences in outcomes by disability status or those that use cross-sectional data are gravely biased. This study fills the gap in the literature on disability by using appropriate data an econometric strategy to provide a more rigorous and nuanced analysis.

Data

The study uses the Living Standards Measurement Study-Integrated Surveys on Agriculture (LSMS-ISA) panel data from Ethiopia, Nigeria and Tanzania, all of which have three waves in the following years: Ethiopia's waves are collected in 2011/12, 2013/14 and 2015/16; Nigeria's waves are collected in 2010/11, 2012/13 and 2015/16; Tanzania's waves are collected in 2008/09, 2010/11 and 2012/13. These countries were chosen because their respective three waves are collected within similar time frames and the variables are relatively comparable across countries. The LSMS-ISA surveys collect information on all economic activities for samples that are nationally representative in general as well as representative of the rural population. Because the surveys are very similar across countries and years, it provides a unique opportunity for a cross-country and panel analysis.

Most importantly, following the framework of the Washington Group on Disability Statistics, for individuals older than five, the LSMS questionnaire[23] captures disability through six questions that aim to detail self-reported difficulties of hearing, seeing, walking or climbing, remembering or concentrating, self-care, understanding or being understood[24]. The motivation for including only the short set of questions is that it is not possible to do so in censuses or surveys not dedicated specifically to disability. Because we rely on a multipurpose questionnaire that collects information on a large variety of modules on social, health and economic aspects, we are restricted by a shorter and less detailed set of questions on disability. However, having a panel and nationally representative data allows a study that captures the trends in disability, a progressive condition that is likely to get worse with time and without proper care, but also one whose results can be extrapolated to discuss the impacts of it for the entire nation. This external validity is crucial when designing protection policies to assist disabled individuals in the longer term.

Figure 1 here

For the purpose of this study, an individual is considered to have a disability if they report some or a lot of difficulty in at least one of the activities of seeing, hearing, walking or climbing, remembering or concentrating, self-care or communicating. Mitra (2018a) motivates the importance of analyzing the disaggregated effects of disability by severity to capture the significantly higher effects on severely disabled individuals in comparison to less severely disabled individuals. Because the proportions of PwD in the samples are relatively

[23] Altman, B. M. (Ed.), *International Measurement of Disability: Purpose, Method and Application (2016*) discusses the disability measure in detail.

[24] In Ethiopia's second and third waves and Tanzania's second wave, the disability questionnaire is asked to individuals who are five and older. But these questions are answered by all individuals in Nigeria, Ethiopia's first wave and Tanzania's first and third wave.

small, doing disaggregated analyses by type and severity of disability is challenging since it will further reduce the proportion of PwD. However, we are able to analyse effects by severity and type of disability (cognitive and physical) within the subsample of just PwD and their households. For simplicity and without loss of generality, we distinguish between physical (seeing, hearing, walking or climbing) and cognitive (remembering or concentrating, self-care, and communicating) disability.

Figure 2 here

Figures 1, 2 and 3 respectively present the proportion of PwD by waves and country, proportion of PwD with different kinds of disability by country, and proportion of PwD with different kinds of disability by severity. An average of around eight percent in Ethiopia, around six percent in Nigeria, and seven percent in Tanzania have some kind of disability[25]. The proportion of individuals with physical disabilities is higher in Ethiopia and Tanzania than those with cognitive disabilities. Although not as stark a difference as in Ethiopia and Tanzania, the occurrence of cognitive disability is higher in Nigeria. In terms of severity, most PwD report they have some difficulty (around 80 percent in Ethiopia and around 65 percent in Nigeria and Tanzania). A very small proportion of PwD report that their disability is so severe that they cannot perform the act in Ethiopia and Tanzania. Same is true in Nigeria except for walking/climbing, self-care and communicating. Although it is not clear why differences exist between countries or between disabilities, it should be noted that unlike disabilities like seeing and hearing, communicating and self-care may be more binary (either you have difficulty communicating or you do not but the difficulty in seeing may have different levels).

Figure 3 here

The descriptive statistics and the results for the test of differences in means of individual, household and household head characteristics by disability status and by country are presented in Tables 1 and 2. PwD are older in all three countries. They are less likely to be male in Ethiopia whereas there is no gender difference in Nigeria and Tanzania. They are more likely to be married in Ethiopia and Tanzania while less likely to be married in Nigeria. Among those married, PwD are more likely to be in a polygamous marriage in Ethiopia whereas they are less likely to be in such a union in Nigeria. It could be the case that in more rural and agricultural setting like in Ethiopia, polygamous marriages are a safety net strategy. Because the average age of individuals in Nigeria is lower than in Ethiopia and Nigeria, the difference in proportion of married and polygamous individuals makes sense. PwD are less likely to be literate or have any schooling in all three countries. If they had schooling, PwD are less likely to have finished the lower secondary level in Ethiopia. Apart from that, there are no significant differences at different levels of schooling. This may be because the PwD in Ethiopia develop their disability later in life and as such, there are no differences in their educational attainment. Even though PwD are more likely to have completed primary levels in Nigeria and Tanzania, the opposite is true at secondary levels of education in Nigeria whereas there are no differences in Tanzania. PwD are more likely to have vocational training in Nigeria. There are no significant differences in the proportion that finish some college or more in both Nigeria and Tanzania. PwD in Ethiopia are less likely to have agriculture as their main occupation whereas those in Tanzania are more likely to work in agriculture.

Table 1 here

There are also significant differences in household and household head's characteristics between households with and without PwD. Households head in households with PwD are older in all three countries. Heads are less likely to be male and married in households with PwD in Ethiopia and Tanzania but more likely to be male and married in Nigeria. Heads in households with PwD are less likely to be literate in Ethiopia and Tanzania. In all three

[25] Note: Wave 3 of Nigeria only asks about difficulty in seeing. Tanzania also has incomplete disability questionnaire in wave 3. As such, the variable is imputed using previous waves in the respective countries with the assumption that if an individual had a disability in wave, *t-1*, they are likely to have in wave, *t*.

countries, they are more likely to have no education. Heads are more likely to have agriculture as their main occupation in Ethiopia but less likely in Nigeria and Tanzania.

Households with PwD are larger in Nigeria and smaller in Ethiopia. There are fewer working age members, both male and female, in households with PwD. There are more women of working age in households with PwD in Tanzania. Households with PwD are more likely to own the house they live in all three countries. In Nigeria and Tanzania, households with PwD are more likely to live in houses with walls made up of mud, dirt or wood. Additionally, in Tanzania, the households with PwD are more likely to live in houses with floors made up of mud, dirt or wood. Households with PwD are less likely to have a drinking water tap during rainy season in Ethiopia and Tanzania. Households with PwD are less likely to have a toilet in Ethiopia and more likely to have a toilet in Nigeria and Tanzania. All in all, housing conditions appears to be poorer for households with PwD. In all three countries, households with PwD are more likely to be vulnerable to all kinds of shocks.

Table 2 here

Test of differences of means of outcome variables are presented in the appendix (Tables A1- A3). Poverty related outcomes include per capita net income, adult equivalent expenditure, adult equivalent expenditure on food, non-food, and education. In addition, likelihood of being in the lowest two quintiles of the income and the expenditure distribution is also considered. As food insecurity is one of the dimensions of poverty, we include outcomes like whether households have worried about not having enough food, relied on less preferred food, limited variety or portion size, reduced frequency of meals and fasted for 24 hours because there was no food. The recall period is seven days.

Even though households with PwD have significantly less per capita net income in only Ethiopia and Nigeria, they are more likely to be in the lowest two quintiles of the income distribution in Tanzania. In Ethiopia and Tanzania, households with PwD are more likely to be in the lowest two quintiles of expenditure distribution and particularly in the lowest two quintiles of food expenditure. Households with PwD spend significantly less on non-food items in Ethiopia and they are also more likely to fall in the lowest two quintiles. However, in both countries, households with PwD are more likely to be in the lowest two quintiles and less likely to be in the highest two quintiles of the non-food expenditure distribution. Households with PwD spend significantly less on education in Ethiopia and Nigeria. Households with PwD are significantly more likely to be food insecure in Ethiopia and Tanzania while there is no difference in food security variable in Nigeria. It is also important to note that unlike Tanzania and Ethiopia where the biggest share of expenditure is on food, households in Nigeria.

The surveys include modules on time-use in income generating activities like agricultural activities, non-agriculture activities, casual/part-time/temporary job, work for wage/salary/commission and unpaid labor. In Ethiopia, PwD are more likely to engage in non-agricultural activities, casual/part-time/temporary job, work for wage/salary/commission and unpaid labor than person without disabilities. In Nigeria, PwD are less likely to engage in agricultural and non-agricultural activities and work for wage/salary/commission than person without disabilities. In Tanzania, PwD are less likely to engage in unpaid labor.

Outcomes pertaining to economic activities include likelihood of participating in agriculture, non-agriculture activities. In Ethiopia, households with PwD are more likely to engage in off-farm activities. Within agriculture, there are no differences in shares of income from agricultural pursuits across the countries. Households with PwD in Ethiopia are more likely to have certificates for their plots and use fertilizers. In Ethiopia and Nigeria, households are more likely to use extension programs. Households with PwD are less likely to use improved seeds in Ethiopia but are more likely to use them in Tanzania. In addition, households with PwD are also more likely to use free seeds.

Within non-agricultural activities, households with PwD have smaller share of non-agricultural wages in Ethiopia and Tanzania and smaller share of self-employment in non-

agriculture sector in Ethiopia. In Ethiopia, households with PwD earn significantly less in non-agriculture wage as well as self-employment income. Both wages and self-employment income in non-agricultural sector also contribute less to the total income for households with PwD. In Nigeria, there is no differences between households with and without PwD in terms of non-agricultural wages or its share in the total income. However, households with PwD earn significantly less from self-employment and the share of self-employment income in the total is lower than that for households without PwD. The outcome variables also include number of enterprises, number of household and hired labor. There are no differences in the number of enterprises in both countries. In Ethiopia, households with PwD hire fewer labor to work in their non-agricultural enterprises.

Households with PwD in Ethiopia and Nigeria are also more likely to engage in transfers and other miscellaneous income generating activities and as a result the share of income from public and private transfers are higher for households with PwD.

Econometric Specification

The data used contains extensive panel data with information on disability and households' economic activities pertaining to agricultural and non-agricultural undertakings. The availability of panel data for all countries allows the use of a fixed effects regression approach that can control for unobserved heterogeneity in the form of time-invariant differences across entities as well as entity-invariant differences over time.

As described in the data section, PwD and their households are statistically different than person without disabilities and their households. In case of time-invariant differences across entities, a fixed effect regression will include a coefficient that is constant over time and will produce a distinct estimated intercept for every single entity. Similarly, in case of entity-invariant differences over time, a fixed effect regression will control for this heterogeneity by including a coefficient that is constant across entities but will vary with each time period. By separating and removing these differences, the net effect of disability on outcome variables can be assessed.

By controlling for all time-invariant differences in observables and unobservables, fixed effects models are able to greatly reduce the omitted variable bias. However, estimates may be still biased because the model is not able to account for unobservables that vary over time within each group.

But because the time between the consecutive waves are short, it is plausible to assume that the unobservables are indeed time-invariant.

These estimations are conducted with the help of the following regression model:

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

where *i* denotes the entity (individual or household depending on the regression), *t* denotes the respective survey wave. The main independent variable, dis_{it}, identifies as a dummy variable whether an individual, *i*, is disabled in time, *t*, for all regressions at the individual level. For all regressions at the household level, the variable whether a household, *i*, has a member who is disabled in time, *t*. A vector of control variables, X_{it}, that include the individual (for individual regressions), household and household head's characteristics are also added to the regression. Furthermore, coefficients γ_i and δ_t represent the entity and time fixed effect respectively. Finally, ε_{it} represents the error term. Robust standard errors are estimated, and intra-cluster correlations are accounted for by clustering the standard errors at the community level in all the regressions.

For individual level gender differentiated effects of disability, the estimation is conducted using the following regression model:

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

where *gender*dis* is an interaction term between gender and disability. The marginal effect, τ, captures the difference in probability to participate in an activity by gender among PwD.

In addition, we also estimate whether and to what extent severity or the kind of disability – physical or cognitive – affects outcomes among those that are disabled or households in which they reside in.

Results

Because results from each country are unique, they are presented by country. The estimated coefficients and marginal effects (β) for the main independent variable, dis_{it}, are presented in Tables 3-5. Table 3 summarizes results on poverty and food security variables. Table 4 and 5 respectively present results on economic activities at household and individual level.

Table 3 here

Ethiopia

Poverty and Food Security. When time-variant and time-invariant observable and unobservable characteristics are controlled for, the differences in income and expenditure between households with and without PwD more or less disappears. It is noted that expenditure is perhaps a better proxy for welfare in the context of rural and agricultural households where income is more volatile. However, having a PwD in the household increases the likelihood of being in the lowest two quintiles of education expenditure. Among households with PwD, households with severely disabled members have a higher income. But results from expenditure variables strongly support that households with severely disabled members are poorer among households with PwD. The results by disability kind also do not reveal whether poverty is higher among households with individuals with physical or cognitive disabilities. Households with PwD with physical disability are less likely to be in the lowest two quintiles of non-food and education expenditure in comparison to households with individuals with cognitive disability in Ethiopia.

Even though income and expenditure variables, generally used to gauge poverty status, do not provide a consistent and clear story, effects on measures for food security demonstrate that households with PwD are highly food insecure in Ethiopia. They are more likely to worry about food, have limited variety of food, limit the portion size of meals, and reduce the frequency of meals in the last seven days. Adults in the households with PwD are also more likely to restrict their consumption in the last seven days. Members in households with PwD are more likely to fast 24 hours in the last seven days in Ethiopia. This complements the results from the test of differences in means of food security variables. The negative effects on food security variables are also consistent with those in Simeu & Mitra (2019). There are little to no effect of severity and disability kind on food security among households with PwD.

Economic Activities. Households with PwD in Ethiopia are more likely to participate non-agricultural activities (both for wage and self-employment), transfers and/or other miscellaneous income activities, off-farm activities like wage work in both agriculture and non-agricultural sectors, self-employment in non-agricultural activities. However, the shares of total income from agricultural wages and public/private transfers are the only ones larger for households with PwD. Among those who engage in crop production, it is also evident that households with PwD are less likely to use improved seeds and more likely to use free seeds.

Among households with PwD, those with severely disabled members are less likely to engage in nonfarm activities but more likely to engage in transfer and off-farm activities. However, they have a differentially lower share of income from non-agricultural activities. Households with severely disabled individuals are more likely to have a certificate for their plots. This could be a strategy to overcome liquidity constraints if needed. The share of income from self-employment is also higher for households with physically disabled than those with individuals with cognitive disability.

Individual level Time-Use. Having a disability reduces the likelihood of engaging in agricultural activities. Although being disabled does not alter the likelihood of engaging in activities that are not agricultural in nature, disabled men are less likely to engage in non-

agricultural activities and work as a casual, part-time, temporary labor than women with disabilities.

Among PwD, severely disabled individuals are less likely to spend time in agricultural activities and more likely to spend time in casual, part-time, temporary jobs. There are no gender differences between individuals with severe disability and those with less severe disability. Individuals with physical disabilities are more likely to engage in agricultural activities, non-agricultural activities, casual labor and work for wage/salary/commission than those with cognitive disabilities. Men who are physically disabled are less likely to engage in non-agricultural activities and casual labor than women who are physically disabled. This analysis enhances the results from Mitra (2018c) – which finds that PwD in Ethiopia have a higher chance of leaving work. The analysis on the effects of being disabled on different kinds of economic activities shows that there is variation by type of activity, gender, severity and type of disability.

Table 4 here

Nigeria

Poverty and Food Security. Similar to Ethiopia, there is little to no evidence that supports the hypothesis that having a PwD affects households' income and expenditure in Nigeria. Having a PwD in the household increases the likelihood of being in the lowest two quintiles of total net income and expenditure on education.

But unlike the results in Ethiopia, households with PwD are not differentially food insecure. They are less likely to rely on less preferred food in the last seven days. This may be because Nigeria is wealthier and food security and nutrition is less of an issue than in Ethiopia.

Even within households with PwD, there is no evidence that households with severely disabled individuals are poorer based on the results for income, expenditure and food security measures. Households with physically disabled individuals have higher income but are more likely to rely on less preferred food and limited variety in the last seven days than those with cognitive disability.

Economic Activities. Households with PwD are less likely to participate in non-agricultural activities (both for wage and self-employment). They have fewer non-farm enterprises. They are more likely to receive public and private transfers, which make a bigger share of their total income. Among those that engage in agriculture, households with PwD are more likely to have a certificate and use an extension program. Even though they do not have significantly different share of income from crop production per hectare, they are less likely to sell their harvest. The share of livestock income is also lower for households with PwD. Within the subsample of households with PwD, those with severely disabled individuals have a higher share of income from crops but lower share from livestock. Households with physically disabled individuals are significantly less likely to engage in farm activities and as result, they have less income from crops per hectare and agricultural income per hectare in general. Additionally, they are less likely to sell their harvest than the households with members that have cognitive disability.

Individual Time-Use. Having a disability reduces the likelihood of engaging in agricultural activities, non-agricultural activities and work for wages/salary/commission in Nigeria. This is consistent with the results from Mitra (2018c) and Mani, Mitra, & Sambamoorthi (2018). Disabled men are less likely to engage in agriculture activities than disabled women. Among PwD, severely disabled individuals are less likely to spend time in agricultural activities and non-agricultural activities. Furthermore, men with severe disability are less likely to spend time in agricultural activities but more likely to spend time in non-agricultural activities than women with severe disability. Physically disabled individuals are more likely to engage in agricultural activities than those with cognitive disability.

Table 5 here

Tanzania

Poverty and Food Security. Having a PwD in the household increases the likelihood of being in the lowest two quintiles of food expenditure in Tanzania. This is consistent with the results from food security measures. Households with PwD are more likely to worry about food, have limited variety of food, limit the portion size of meals, and reduce the frequency of meals in the last seven days. Adults in the households with PwD are also more likely to restrict their consumption in the last seven days.

Consistent with results from Ethiopia, among households with PwD in Tanzania, households with severely disabled members have a higher income. Results from expenditure variables show that households with severely disabled members also spend more, which is strongly driven by differentially higher spending in education. Households with severely disabled members also have smaller lands. Households with physically disabled individuals in Tanzania spend more on non-food items and less on education. They are more likely to fall in the lowest two quintiles of food expenditure. There are no effects of severity and disability kind on food security.

Economic Activities. Having a PwD does not affect household's economic activities. Among households with PwD, those with severely disabled members have more non-farm enterprises. Although households with physically disabled individuals in Tanzania are not different in terms of their participation in different economic activities from those with individuals with cognitive disability, they have significantly less agricultural income per hectare. Households with physically disabled individuals have fewer non-farm enterprises.

Individual Time-use. There are no differences – in general or by gender – in time use between person with and without disabilities in Tanzania. This implies that PwD, both men and women, are equally likely to participate in economic activities as those without. This is in contrast to the results from Mitra (2018c) and Mani, Mitra, & Sambamoorthi (2018).

Summary and Discussion

The goal of this paper is to not only reevaluate the disability and poverty relationship using panel data and rigorous econometric techniques but also to study the role of disability status in affecting economic activities of PwD as well as their families in rural contexts of sub-Saharan African countries. In doing so, it adds to a new line of research that uses panel data and fixed effect models (Mitra, 2018; Mani, Mitra, & Sambamoorthi, 2018) and extends it by doing a more in-depth analysis on the economic activities .

The results from the three sub-Saharan countries provide unique stories about the effect of disability on households' economic activities. In Ethiopia, although the likelihood of participating in agricultural activities is not affected by the presence of a disabled member in the household, households with PwD are found to be highly food insecure. The statistically higher likelihood of participation of households with PwD in non-farm, off-farm and transfers, which translates into a higher share of income from agricultural wages and transfers, brings their income and expenditure to a level that is no different than those without PwD. The role of income from non-farm activities and transfers is further confirmed by the results from the analysis by severity. Among households with PwD, households with severely disabled members are still more likely to participate in transfers and off-farm activities but, unlike households with PwD, households with severely disabled individuals are less likely to participate in non-farm activities, which results in a lower share of income coming from self-employment. In addition, the share of income from transfer is no longer higher for households with severely disabled members. In terms of food security, households with individuals with severe and those with less severe disabilities are equally food insecure. Although PwD in Ethiopia are less likely to engage in agricultural activities, they are equally likely to engage in other income generating activities as person without disabilities. Additionally, women with disabilities are more likely to engage in non-agricultural and temporary jobs than men with disabilities.

Like Ethiopia, in Nigeria having a PwD does not affect the likelihood of engaging in agricultural activities. Among those who do engage in agricultural activities, households with PwD are less likely to sell their harvest. This could be the reason why they are not more

food insecure. But unlike those in Ethiopia, households with PwD are less likely to rely on nonfarm activities and transfers. As households with PwD receive a significantly high income from transfers, they have similar income and expenditure as households without PwD. PwD in Nigeria are less likely to engage in agricultural, non-agricultural activities and work for wage/salary/commission.

Apart from statistically higher number of enterprises, having a PwD does not seem to affect any other economic activities in Tanzania and as such, income and expenditure outcomes are also not statistically different from those without PwD. However, households with PwD are more likely to be food insecure. PwD in Tanzania are equally likely to engage in agricultural, non-agricultural activities and unpaid labor.

Despite the variation in results from these three countries, three common themes can be observed. First, households with PwD are poorer based on at least one dimension. They either have lower income or expenditure or are highly food insecure or have lower capabilities or are prone to more shocks. However, the effects of disability on most poverty measures disappear when time varying observable and unobservable characteristics are controlled using time and entity fixed effects model with control variables that include the household and household head characteristics. In summary, using panel data and a fixed effect model, we find no effect of disability on poverty. This result is consistent with results from (Mitra, 2018c).

Second, in countries like Tanzania and Ethiopia, where participation rate in on-farm activities is over 92% (in comparison to 77% in Nigeria), having a PwD increases likelihood of food insecurity regardless of whether PwD are less or equally as likely to participate in agriculture as person without disabilities.

Third, households with PwD have statistically higher (Ethiopia and Nigeria) or equal participation (Tanzania) in certain income generating activities, which could be a mechanism through which they are able to compensate for any possible disadvantages they may face in the labor markets attributable to disability. This would be possible if PwD are still active in the labor market and/or other members of the households work more to make up for any reduction in labor hours of PwD. The individual time use results do reveal that although PwD are less likely to engage in certain activities (agriculture in Ethiopia; agriculture, non-agriculture and work for wage/salary/commission in Nigeria), they were equally likely to engage in other activities as person without disabilities (non-agriculture, temporary, work for wage/salary/commission, unpaid in Ethiopia; agriculture, non-agriculture and unpaid in Tanzania).

References

Altman, B. M. (Ed.), *International Measurement of Disability: Purpose, Method and Application (2016)*. Retrieved from https://www.springer.com/us/book/9783319284965

Castaneda Aguilar, R. A., Doan, D. T. T., Newhouse, D. L., Nguyen, M. C., Uematsu, H., & Azevedo, J. P. W. D. , *Who are the poor in the developing world ?* No. WPS7844, (2016), 1–44. Retrieved from The World Bank website: http://documents.worldbank.org/curated/en/187011475416542282/Who-are-the-poor-in-the-developing-world

Eide, A. H., & Ingstad, B. , Disability and poverty – Reflections on research experiences in Africa and beyond in *African Journal of Disability*, *2*(1), (2013). https://doi.org/10.4102/ajod.v2i1.31

Elwan, A., *Poverty and disability : a survey of the literature*, No. 21315, (1999), 1. Retrieved from The World Bank website: http://documents.worldbank.org/curated/en/488521468764667300/Poverty-and-disability-a-survey-of-the-literature

Emmett, T., & Alant, E. Women and disability: exploring the interface of multiple disadvantage in *Development Southern Africa*, *23*(4), (2006) 445–460. https://doi.org/10.1080/03768350600927144

Erb, S., & Harriss-White, B., *Outcast from social welfare: adult disability, incapacity, and development in rural South India,* (2002). Retrieved from https://catalog.hathitrust.org/Record/003858211

Filmer, D., Disability, poverty, and schooling in developing countries : results from 14 household surveys in *The World Bank Economic Review*, *22*(2008), 33–61.

Fine, M., *Women with Disabilities: Essays in Psychology, Culture, and Politics*, (Temple University Press: 2009).

Foley, D., & Chowdhury, J. Poverty, Social Exclusion and the Politics of Disability: Care as a Social Good and the Expenditure of Social Capital in Chuadanga, Bangladesh in *Social Policy & Administration*, *41*(4), (2007), 372–385. https://doi.org/10.1111/j.1467-9515.2007.00559.x

Graham, L., Moodley, J., & Selipsky, L., The disability–poverty nexus and the case for a capabilities approach: evidence from Johannesburg, South Africa in *Disability & Society*, *28*(3), (2013), 324–337. https://doi.org/10.1080/09687599.2012.710011

Grech, S., Recolonising debates or perpetuated coloniality? Decentring the spaces of disability, development and community in the global South in *International Journal of Inclusive Education*, *15*(1), (2011), 87–100. https://doi.org/10.1080/13603116.2010.496198

Grech, S., Disability, Childhood and Poverty: Critical Perspectives on Guatemala in *Disabled Children's Childhood Studies* 2013), 89–104. https://doi.org/10.1057/9781137008220_8

Hanass-Hancock, J., & Mitra, S., Livelihoods and Disability: The Complexities of Work in the Global South. In S. Grech & K. Soldatic (Eds.), *Disability in the Global South: The Critical Handbook,* (2016), 133–149. https://doi.org/10.1007/978-3-319-42488-0_9

Huang, J., Guo, B., & Kim, Y., Food insecurity and disability: Do economic resources matter? in *Social Science Research*, *39*(1), (2010), 111–124. https://doi.org/10.1016/j.ssresearch.2009.07.002

Kiani, S., Women with disabilities in the North West province of Cameroon: Resilient and deserving of greater attention in *Disability & Society*, *24*, (2009), 517–531. https://doi.org/10.1080/09687590902879205

Loeb, M., Eide, A. H., Jelsma, J., Toni, M. ka, & Maart, S., Poverty and disability in Eastern and Western Cape Provinces, South Africa in *Disability & Society*, *23*(4), (2008), 311–321. https://doi.org/10.1080/09687590802038803

Lustig, D. C., & Strauser, D. R., Causal Relationships Between Poverty and Disability in *Rehabilitation Counseling Bulletin*, *50*(4),(2007), 194–202. https://doi.org/10.1177/00343552070500040101

Mactaggart, I., Banks, L. M., Kuper, H., Murthy, G. V. S., Sagar, J., Oye, J., & Polack, S., Livelihood opportunities amongst adults with and without disabilities in Cameroon and India: A case control study in *PLOS ONE*, *13*(4), (2018). e0194105. https://doi.org/10.1371/journal.pone.0194105

Mani, S., Mitra, S., & Sambamoorthi, U., Dynamics in health and employment: Evidence from Indonesia in *World Development*, *104*, (2018), 297–309. https://doi.org/10.1016/j.worlddev.2017.11.021

Mitra, S., The Capability Approach and Disability in *Journal of Disability Policy Studies*, *16*(4), (2006), 236–247. https://doi.org/10.1177/10442073060160040501

Mitra, S., Dynamics of Functional Difficulties and Wellbeing. In S. Mitra (Ed.) in *Disability, Health and Human Development* (2018), 129–152). https://doi.org/10.1057/978-1-137-53638-9_6

Mitra, S., Introduction. In S. Mitra (Ed.), in *Disability, Health and Human Development*, (2018), 1–7. https://doi.org/10.1057/978-1-137-53638-9_1

Mitra, S., Main Results and Implications. In S. Mitra (Ed.), *Disability, Health and Human Development* (2018), 153–162. https://doi.org/10.1057/978-1-137-53638-9_7

Mitra, S., Posarac, A., & Vick, B. (2013). Disability and Poverty in Developing Countries: A Multidimensional Study. *World Development*, *41*, 1–18. https://doi.org/10.1016/j.worlddev.2012.05.024

Mitra, S., & Sambamoorthi, U., Disability and the Rural Labor Market in India: Evidence for Males in Tamil Nadu. *World Development*, *36*, (2008), 934–952. Retrieved from edselp.

Mitra, S., & Sambamoorthi, U., Wage differential by disability status in an agrarian labour market in India. *Applied Economics Letters*, *16*(14), (2009), 1393–1398. https://doi.org/10.1080/13504850802047011

Mont, D., & Cuon, N. V. , Disability and Poverty in Vietnam in *World Bank Economic Review*, *25*(2), (2011) 323–359. https://doi.org/10.1093/wber/lhr019

New UN Report on Disability and Sustainable Development Goals | United Nations Enable. (2018). Retrieved from https://www.un.org/development/desa/disabilities/publication-disability-sdgs.html

Nord, M., *Characteristics of Low-Income Households With Very Low Food Security: An Analysis of the USDA GPRA Food Security Indicator*, (2007). Retrieved August 1, 2018, from https://www.ers.usda.gov/publications/pub-details/?pubid=44173

Parodi, G., & Sciulli, D., Disability in Italian households: income, poverty and labour market participation in *Applied Economics*, *40*(20), (2008), 2615–2630. https://doi.org/10.1080/00036840600970211

Pinilla-Roncancio, M., Disability and poverty: two related conditions. A review of the literature in *Revista de La Facultad de Medicina*, *63*(3Sup), (2015), 113–123. https://doi.org/10.15446/revfacmed.v63n3sup.50132

She, P., & Livermore, G. A., Material Hardship, Poverty, and Disability Among Working-Age Adults* in *Social Science Quarterly*, *88*(4), (2007), 970–989. https://doi.org/10.1111/j.1540-6237.2007.00513.x

Simeu, N., & Mitra, S., Disability and household economic wellbeing: evidence from Indonesian longitudinal data. *Oxford Development Studies*, *0*(0), (2019), 1–14. https://doi.org/10.1080/13600818.2019.1575348

Trani, J.-F., & Loeb, M., Poverty and disability: A vicious circle? Evidence from Afghanistan and Zambia. *Journal of International Development*, *24*(S1), (2010), S19–S52. https://doi.org/10.1002/jid.1709

World Report on Disability 2011. (2011). In *WHO Guidelines Approved by the Guidelines Review Committee*. Retrieved from http://www.ncbi.nlm.nih.gov/books/NBK304079/

Figures[26]

Figure 1: Proportion of persons with disability by waves and countries

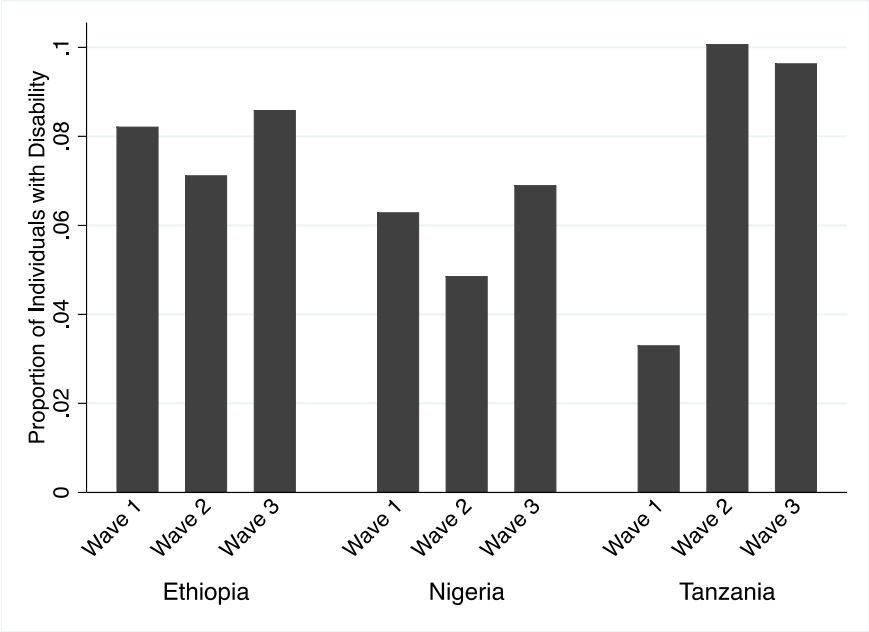
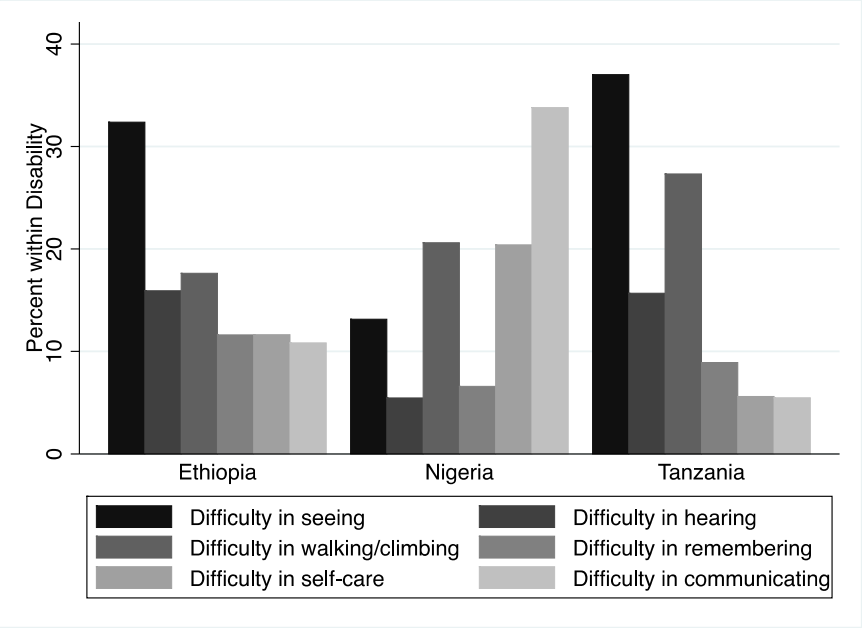


Figure 2: Proportion of PwD with different kinds of disability (panel)



[26] Note: Wave 3 of Nigeria only asks about difficulty in seeing. Tanzania also has incomplete disability questionnaire in wave 3. As such, the variable is imputed using previous waves in the respective countries with the assumption that if an individual had a disability in wave, *t-1*, they are likely to have in wave, *t*.

Figure 3: Severity distribution by disability kind (panel)

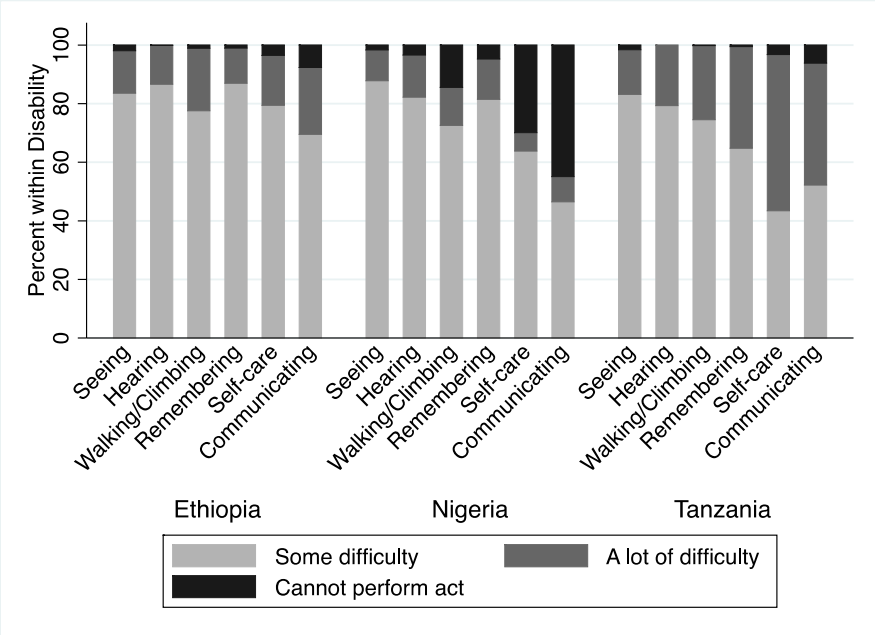


Table 1: Weighted Averages of individual characteristics by disability status

	Ethiopia			Nigeria			Tanzania		
Individual Characteristics	**PwD**	**Non-PwD**	**P-value**	**PwD**	**Non-PwD**	**P-value**	**PwD**	**Non-PwD**	**P-value**
Age	43.796	21.458	0.000***	29.763	24.264	0.003***	47.091	22.821	0.000***
Gender is male	0.484	0.508	0.033**	0.526	0.506	0.125	0.47	0.49	0.425
Married	0.509	0.322	0.000***	0.275	0.34	0.004***	0.407	0.257	0.000***
If married, in polygamous marriage	0.044	0.024	0.007***	0.247	0.345	0.001***	0.203	0.219	0.495
Literate	0.287	0.497	0.000***	0.329	0.551	0.000***	0.531	0.657	0.000***
Any schooling	0.286	0.564	0.000***	0.481	0.667	0.000***	0.579	0.687	0.000***
Disability: reason for no school	0.025	0.001	0.000***	0.016	0.001	0.003***	-	-	-
Education: Below primary	0.088	0.095	0.726	0.02	0.013	0.187	0.001	0.000	0.420
Education: Primary	0.803	0.803	0.997	0.488	0.428	0.065*	0.740	0.465	0.000***
Education: Secondary (9th and 10th grade)	0.046	0.066	0.031**	0.045	0.117	0.000***	-	-	-
Education: Secondary (11th and 12th grade)	0.007	0.009	0.541	0.114	0.225	0.000***	0.036	0.037	0.933
Education: Vocational	0.026	0.014	0.124	0.01	0.004	0.043**	0.003	0.001	0.328
Education: Some college	0.001	0.002	0.132	0.037	0.037	0.941	-	-	-
Education: College and higher	0.005	0.003	0.489	0.015	0.021	0.163	0	0	0.254
Education: Religious	0.004	0.001	0.161	0.157	0.101	0.12	-	-	-
Main Occupation: Agriculture	0.874	0.898	0.006***	0.572	0.57	0.96	0.755	0.664	0.005***
Number of individuals in the panel	4,098	47,256		3,182	50,124		2,214	27,908	

Table 2: Weighted Averages of household characteristics by disability status

	Ethiopia			Nigeria			Tanzania		
Variables	**PwD**	**Non-PwD**	**P-value**	**PwD**	**Non-PwD**	**P-value**	**PwD**	**Non-PwD**	**P-value**
Household head's characteristics									
Age	53.951	43.358	0.000***	54.133	51.458	0.003***	55.523	46.087	0.000***
Gender is male	0.725	0.81	0.000***	0.867	0.834	0.015**	0.71	0.777	0.000***
Married	0.717	0.82	0.000***	0.831	0.79	0.008***	0.578	0.635	0.001***
Religion: in majority	0.493	0.481	0.63	-	-	-			
Head is literate	0.339	0.478	0.000***	0.377	0.376	0.988	0.657	0.752	0.000***
Head has no education	0.725	0.575	0.000***	0.427	0.373	0.006***	0.342	0.248	0.000***
Main Occupation: Agriculture	0.857	0.837	0.081*	0.35	0.381	0.064*	0.338	0.393	0.061*
Household's characteristics									
Household size	5.704	5.879	0.047**	6.949	6.615	0.033**	5.96	5.744	0.128
Number of male member between ages 15 and 60	1.095	1.246	0.000***	1.498	1.564	0.158	1.425	1.40	0.603
Number of female member between 15 and 60	1.237	1.265	0.292	1.639	1.691	0.211	1.480	1.408	0.097*
Own house (dummy)	0.935	0.916	0.008***	0.868	0.799	0.000***	0.933	0.901	0.002***
Has electricity (dummy)	0.27	0.285	0.56	0.399	0.393	0.831	0.044	0.05	0.395
Walls are made up of mud, dirt or wood	0.006	0.008	0.161	0.618	0.563	0.018**	0.624	0.586	0.068*
Roofs are made up of mud, dirt or wood	0.006	0.005	0.821	0.194	0.188	0.683	0.43	0.475	0.051*
Floors are made up of mud, dirt or wood	0.038	0.051	0.167	0.395	0.388	0.735	0.844	0.885	0.007***
Drinking water comes from a tap (rainy season)	0.224	0.264	0.043**	0.065	0.061	0.775	0.010	0.014	0.242
Has a toilet	0.314	0.357	0.033**	0.467	0.425	0.018**	0.15	0.027	0.015**
Shock: death in the family	0.032	0.019	0.017**	0.15	0.137	0.232	0.160	0.158	0.824
Shock: illness in the family	0.215	0.135	0.000***	0.101	0.042	0.000***	0.155	0.088	0.000***
Shock: Farm-crop damage and/or loss of livestock	0.125	0.1	0.127	0.046	0.021	0.000***	0.515	0.500	0.444
Shock: Non-farm-job loss and/or business failure	0.008	0.01	0.32	0.057	0.042	0.081*	0.017	0.021	0.370
Shock: Natural disaster (drought, flood, heavy rain)	0.234	0.183	0.004***	0.123	0.087	0.001***	0.558	0.511	0.005***
Shock: Price changes	0.315	0.274	0.049**	0.147	0.099	0.000***	0.728	0.721	0.626
Number of households in the panel	2,999	7,881		2,089	7,150		1,691	4,320	

Table 3: Any Disability and Poverty and Food Security

	Coefficients/Marginal Effects								
	Ethiopia			Nigeria			Tanzania		
Outcome Variables	**Any disability**	**Severe Disability**	**Physical Disability**	**Any disability**	**Severe Disability**	**Physical Disability**	**Any disability**	**Severe Disability**	**Physical Disability**
Poverty related outcomes									
Log of per capita net income[1]	0.0028	0.342*	-0.278	-0.164	-0.098	0.524**	-0.033	1.040*	0.245
In the lowest two quintiles of total net income[1] *	-0.000547	-0.0241	-0.032	0.0417*	-0.011	0.0138	0.0324	0.038	-0.025
Log of adult equivalent expenditure	0.018	-0.0884**	-0.0131	-0.064	-0.025	0.227	-0.0902	0.494*	0.432
In the lowest two quintiles of adult equivalent expenditure *	0.017	0.0661***	-0.006	-0.007	-0.005	-0.0001	0.041	-0.074	0.040
Log of adult equivalent expenditure on food	0.0048	-0.105**	-0.0221	0.007	-0.0223	-0.034	-0.084	0.380	0.384
In the lowest two quintiles of adult equivalent expenditure on food *	0.0183	0.0543**	-0.008	-0.0189	0.049	0.0460	0.081***	-0.039	-0.0476
Log of adult equivalent expenditure on non-food	0.0426	0.0192	-0.004	-0.077	-0.057	0.347	0.073	0.219	0.074*
In the lowest two quintiles of adult equivalent expenditure on non-food *	0.001	0.0202	-0.0434*	-0.003	-0.006	-0.0001	-0.023	0.072	-0.059
Log of adult equivalent expenditure on education	0.0324	0.134	0.102	0.0808	-0.088	-0.317	0.266	1.685**	-3.240***
In the lowest two quintiles of adult equivalent expenditure on education *	0.0225*	0.0485**	-0.0541**	0.079***	0.0348	-0.026	0.0138	0.026	0.0587
Land owned (in hectare) if not landless[1]	0.341	0.950	0.087	-0.0707	-0.310	0.190	0.730	-1.113*	-6.102
Food Security									
Worried about not having enough food in the last 7 days? *	0.0394***	0.0253	-0.00719	-0.027	-0.0434	0.0535	0.124***	0.0275	0.0918
Relied on less preferred food in the last 7 days? *	0.0292***	0.000579	0.0239	-0.064***	-0.0231	0.0677**	0.118***	0.069	0.115
Limited variety in the last 7 days? *	0.0268***	0.00165	0.0347*	-0.015	-0.0117	0.0672**	0.0468	0.009	0.0688
Limited portion size in the last 7 days? *	0.0389***	0.0133	0.00997	-0.024	-0.0170	0.0143	0.0474**	-0.008	0.0484
Reduced frequency of meals in the last 7 days? *	0.0399***	0.0127	0.00303	-0.008	-0.0384	0.00826	0.0741**	-0.014	0.116
Adults restricted consumption in the last 7 days? *	0.0263***	0.00327	-0.00264	-0.0056	-0.0130	0.00420	0.0338**	-0.0149	-0.0319
Fasted for 24 hours because there was no food in the last 7 days? *	0.0201***	0.00809	0.00207	-0.006	-0.0204	5.16e-05	-0.000538	-0.005	0.0399
Number of households with PwD/Severely disabled/physically disabled	2,999	684	777	2,089	828	964	1,691	513	1,369
Number of households in the panel	10,870	2,999	2,999	9,239	2,089	2,089	6,011	1,689	1,689

Note:1. Estimated using RIGA data (only first two waves available for Ethiopia). * Marginal effects are reported for variables labelled. ***p-value <0.01; **p-value<0.05; *p-value<0.1.

Table 4: Any Disability and Economic Activities at the Household level

	Coefficients/Marginal Effects								
	Ethiopia			Nigeria			Tanzania		
Outcome Variables	**Any disability**	**Severe Disability**	**Physical Disability**	**Any disability**	**Severe Disability**	**Physical Disability**	**Any disability**	**Severe Disability**	**Physical Disability**
Participation in crop and/or livestock activities (onfarm)[1] *	-0.008	0.0032	0.0111	0.00324	-0.039	-0.0593***	-0.004	-0.004	-0.012
Participation in non-agriculture wage and/or self-employment (nonfarm)[1] *	0.0289**	-0.047*	0.0240	-0.0681**	-0.025	0.0226	-0.0102	0.0614	-0.050
Participation in transfers and/or other miscellaneous income activities (transfer)[1] *	0.0665***	0.123***	0.0209	0.0259***	-0.011	0.0265	-0.0106	0.050	0.004
Participation in ag-wage, non-ag wage, self-employment and/or other activities (off-farm)[1] *	0.0684***	0.051*	0.0383	-	-	-	-0.0102	0.027	-0.029
Share of income from agricultural wages[1]	0.0107*	-0.0036	-0.001	0.004	-0.008	-0.008	-0.012	0.015	-0.028
Share of income from crops[1]	-0.00811	0.003	0.008	0.009	0.048*	0.012	0.0021	-0.007	-0.023
Share of income from livestock[1]	-0.0126	-0.005	-0.021	-0.019***	-0.017*	0.003	0.013	-0.059	0.030
Log of income from crops per hectare[1]	0.190	-0.071	-0.479	0.120	0.321	-0.727**	-0.0730	0.342	-2.004***
Log of agricultural income (crops and livestock) per hectare[1]	0.0145	-0.019	-0.374	0.0900	0.106	-0.629*	0.018	-0.0599	0.450
Likelihood of selling the harvest*	0.0136	0.011	0.0283	-0.0552**	0.046	0.078*	0.033	0.003	0.061
Likelihood of having a certificate *	0.00879	0.0621**	0.0148	0.0677***	-0.014	-0.069	-	-	-
Likelihood of using extension programs *	-0.0172	-0.0154	0.000	0.0281**	-0.005	-0.046*	-	-	-
Likelihood to use fertilizers*	0.0042	-0.001	0.0435*	-0.004	0.005	0.026	-0.001	-0.122	0.006
Likelihood of using improved seeds*	-0.0119	-0.023	0.0306*	-0.003	-0.0004	0.067	-0.008	0.051*	0.0434
Likelihood of using purchased seeds*	-0.0265*	-0.003	0.0236	-0.013	-0.005	0.034	0.013	0.003	-0.037
Likelihood of using free seeds*	0.0184**	0.006	-0.0214	0.0151*	0.008	-0.006	-	-	-
Share of income from non-agricultural wages[1]	0.0004	0.006	0.008	-0.005	-0.0028	-0.009	-0.000	0.005	-0.014
Share of income from self-employment income[1]	-0.0498	-0.018*	0.0204*	0.009	-0.013	0.006	-0.004	0.022	0.019
Number of enterprises	0.0116	-0.008	0.0215	-0.128**	0.017	0.206	-0.0412	5.98***	-6.928***
Share of income from public and private transfers[1]	0.0147**	0.018	-0.0144	0.014**	-0.003	0.0013	-0.000	0.015	0.014
Number of households with PwD/Severely disabled/physically disabled	2,999	684	777	2,089	828	964	1,691	513	1,369
Number of households in the panel	10,870	2,999	2,999	9,239	2,089	2,089	6,011	1,689	1,689

Note:1. Estimated using RIGA data (only first two waves available for Ethiopia). * Marginal effects are reported for variables labelled. ***p-value <0.01; **p-value<0.05; *p-value<0.1

Table 5: Any Disability and Economic Activities at the Individual level

	Marginal Effects								
	Ethiopia			Nigeria			Tanzania		
Outcome Variables	**Any disability**	**Severe Disability**	**Physical Disability**	**Any disability**	**Severe Disability**	**Physical Disability**	**Any disability**	**Severe Disability**	**Physical Disability**
Does having a disability affect whether individuals engage in:									
Agricultural activities in the last 7 days?	-0.0327**	-0.0849**	0.0823***	-0.155***	-0.14***	0.116***	0.028	-0.104	0.0564
Non-agricultural activities in the last 7 days?	-0.0018	-0.00172	0.0431***	-0.116***	-0.102**	0.000	0.006	0.046	-0.038
Casual, part-time, temporary job in the last 7 days?	0.003	0.0218*	0.0281**	-	-	-	-	-	-
Work for wage, salary, commission in the last 7 days?	0.001	-0.00419	0.0159**	-0.02**	-0.000	0.0585	-	-	-
Unpaid labor in the last 7 days?	-0.001	0.00633	0.0107	-	-	-	0.026	-1.52	-0.017
***Do men and women with disabilities engage differently in:**									
Agricultural activities in the last 7 days?	-0.0285	0.0470	-0.0285	-0.214***	-0.173*	0.0318	0.029	-0.025	-0.185
Non-agricultural activities in the last 7 days?	-0.0491***	-0.00454	-0.0491***	0.0182	0.303**	-0.006	0.020	0.638	0.089
Casual, part-time, temporary job in the last 7 days?	-0.0212**	-0.00763	-0.0212**	-	-	-	-	-	-
Work for wage, salary, commission in the last 7 days?	-0.009	-0.00812	-0.00986	-0.008	-0.21**	0.056	0.008	-2.089	0.036
Unpaid labor in the last 7 days?	-0.0016	0.0567	-0.00162	-	-	-	-	-	-
Number of PwD/Severely disabled/physically disabled individuals	4,074	760	2,684	3,182	2,071	1,934	2,214	555	1,740
Number of individuals in the panel	51,253	4,074	4,074	53,299	3,182	3,182	30,122	2,214	2.214

*the reported marginal effects are for the interaction terms between disability and gender. ***p-value <0.01; **p-value<0.05; *p-value<0.1.

Appendix

Table A1: Weighted Averages of poverty related outcome variables by disability status

	Ethiopia			Nigeria			Tanzania		
Variables	**PwD**	**Non-PwD**	**P-**	**PwD**	**Non-PwD**	**P-**	**PwD**	**Non-PwD**	**P-**
Poverty related outcomes									
Total Income[1] (USD)	120.534	141.405	0.039**	3.106	5.678	0.030**	493.1	497.5	0.865
In the lowest two quintiles of total net income[1]	0.423	0.391	0.195	0.402	0.381	0.31	0.430	0.388	0.008***
Adult equivalent total expenditure (USD)	237.407	251.979	0.021**	14181.63	69621.69	0.236	230.55	236.883	0.337
In the lowest two quintiles of total expenditure	0.402	0.377	0.103	0.576	0.554	0.248	0.433	0.391	0.020**
Adult equivalent expenditure on food (USD)	193.359	199.069	0.23	249.361	325.113	0.2	174.02	176.689	0.550
In the lowest two quintiles of adult equivalent expenditure on food	0.399	0.378	0.092*	0.48	0.472	0.707	0.43	0.393	0.058*
Adult equivalent expenditure on non-food (USD)	41.825	50.257	0.004****	13918.68	69278.78	0.237	46.861	48.020	0.639
In the lowest two quintiles of adult equivalent expenditure on non-food	0.42	0.371	0.035**	0.576	0.554	0.239	0.409	0.388	0.214
Adult equivalent expenditure on education (USD)	2.224	2.653	0.039**	13.589	17.795	0.005***	6.186	6.453	0.689
In the lowest two quintiles of adult equivalent expenditure on education	0.401	0.377	0.17	0.484	0.428	0.003***	0.407	0.383	0.229
Food Security									
Worried about not having enough food in the last 7 days?	0.223	0.149	0.000***	0.448	0.453	0.83	0.551	0.629	0.001***
Limited variety in the last 7 days?	0.267	0.198	0.000***	0.337	0.344	0.744	0.377	0.520	0.000***
Limited portion size in the last 7 days?	0.238	0.161	0.000***	0.246	0.248	0.9	0.333	0.507	0.000***
Reduced frequency of meals in the last 7 days?	0.223	0.153	0.000***	0.214	0.21	0.845	0.436	0.557	0.000***
Adults restricted consumption in the last 7 days?	0.144	0.102	0.001***	0.114	0.117	0.794	0.274	0.470	0.000***
Fasted for 24 hours because there was no food in the last 7 days?	0.052	0.03	0.005***	0.029	0.026	0.612	0.232	0.453	0.000***
Number of households in the panel	2,999	7,881		2,089	7,150		1,691	4,320	

Note:1. Estimated using RIGA data (only first two waves available for Ethiopia).

Table A2: Weighted Averages of economic activities related outcome variables by disability status

	Ethiopia			Nigeria			Tanzania		
Variables	**PwD**	**Non-PwD**	**P-value**	**PwD**	**Non-PwD**	**P-value**	**PwD**	**Non-PwD**	**P-value**
Participation in crop and/or livestock activities (onfarm)[1] *	0.925	0.924	0.858	0.792	0.767	0.224	0.968	0.968	0.879
Participation in non-agriculture wage and/or self-employment (nonfarm)[1] *	0.262	0.282	0.337	0.589	0.594	0.852	0.472	0.480	0.665
Participation in transfers and/or other miscellaneous income activities (transfer)[1] *	0.442	0.322	0.000***	0.152	0.113	0.004***	0.590	0.832	0.182
Participation in ag-wage, non-ag wage, self-employment and/or other activities (off-farm)[1] *	0.661	0.598	0.007***	-	-	-	0.836	0.831	0.644
Share of income from agricultural wages	0.057	0.052	0.4	0.009	0.008	0.672	0.066	0.073	0.499
Share of income from crops	0.595	0.583	0.416	0.411	0.401	0.606	0.443	0.428	0.611
Share of income from livestock	0.173	0.187	0.145	0.055	0.066	0.14	0.149	0.134	0.631
Income from crops per hectare (USD)	335.878	517.708	0.11	4.27	4.03	0.547	144.832	134.53	0.288
Agricultural income (crops and livestock) per hectare	99.691	108.166	0.333	593.074	82.97	0.342	196.5	205.5	0.497
Proportion of households that sell their harvest*	0.742	0.756	0.374	0.577	0.616	0.109	0.718	0.698	0.27
Proportion of households that have a certificate *	0.632	0.549	0.000***	0.107	0.086	0.329	-	-	-
Proportion of households that use extension programs *	0.377	0.422	0.020**	0.201	0.133	0.014**	-	-	-
Proportion of households that use fertilizers*	0.513	0.573	0.012**	0.54	0.498	0.142	0.161	0.15	0.501
Proportion of households that use improved seeds*	0.224	0.263	0.060*	0.127	0.132	0.79	0.468	0.412	0.001***
Proportion of households that use purchased seeds*	0.589	0.612	0.218	0.323	0.327	0.815	0.677	0.648	0.076*
Proportion of households that use free seeds*	0.104	0.083	0.072*	0.071	0.068	0.683	-	-	-
Share of income from non-agricultural wages	0.028	0.045	0.005***	0.079	0.09	0.299	0.074	0.089	0.047*
Share of income from self-employment income	0.067	0.088	0.003***	0.362	0.383	0.281	0.165	0.18	0.212
Number of enterprises	1.198	1.271	0.147	1.836	1.798	0.456	1.31	1.275	0.296
Share of income from public and private transfers	0.079	0.045	0.000***	0.061	0.034	0.001***	0.099	0.094	0.587
Number of households in the panel	2,999	7,881		2,089	7,150		1,691	4,320	

Table A3: Weighted Averages of individual time use related outcome variables by disability status

	Ethiopia			Nigeria			Tanzania		
Variables	**PwD**	**Non-PwD**	**P-value**	**PwD**	**Non-**	**P-value**	**PwD**	**Non-**	**P-value**
Does having a disability affect whether individuals engage in:									
Agricultural activities in the last 7 days?	0.453	0.434	0.218	0.247	0.283	0.041**	0.534	0.532	0.880
Non-agricultural activities in the last 7 days?	0.104	0.082	0.003***	0.034	0.042	0.226	0.13	0.129	0.973
Casual, part-time, temporary job in the last 7 days?	0.032	0.024	0.081*	0.144	0.187	0.001***			
Work for wage, salary, commission in the last 7 days?	0.016	0.012	0.072*						
[i]Unpaid labor in the last 7 days?	0.04	0.028	0.017**				0.17	0.423	0.000***
Number of individuals in the panel	4,098	47,256		3,182	50,124		2,214	27,778	