

Cote du document: EB 2019/128/R.7
Point de l'ordre du jour: 4 c)
Date: 12 novembre 2019
Distribution: Publique
Original: Anglais

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Investir dans les populations rurales

Activités économiques des personnes handicapées dans les zones rurales: nouvelles données factuelles et possibilités d'action du FIDA

Note à l'intention des représentants au Conseil d'administration

Responsables:

Questions techniques:

Paul Winters
Vice-Président adjoint
Département de la stratégie et des savoirs
téléphone: +39 06 5459 2189
courriel: p.winters@ifad.org

Sara Savastano
Directrice
Division recherche et évaluation de l'impact
téléphone: +39 06 5459 2155
courriel: s.savastano@ifad.org

Transmission des documents:

Deirdre Mc Grenra
Cheffe
Gouvernance institutionnelle
et relations avec les États membres
téléphone: +39 06 5459 2374
courriel: gb@ifad.org

Conseil d'administration — Cent vingt-huitième session
Rome, 10-12 décembre 2019

Pour: Examen

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I. Justification

1. Dans la Convention relative aux droits des personnes handicapées et le Protocole facultatif s'y rapportant, il est reconnu que la personne handicapée n'est pas un objet de charité, de traitements médicaux ou de mesures de protection sociale, mais un sujet capable d'exercer ses droits, de prendre des décisions sur la base du consentement libre et éclairé et de participer activement à la société¹. Dans le même esprit, le Programme de développement durable à l'horizon 2030 fait du handicap une question transversale, appelant à l'inclusion des personnes handicapées dans les objectifs, les cibles et les mesures associés, y compris la promotion d'une croissance économique soutenue, partagée et durable, du plein emploi productif et d'un travail décent pour tous (objectif de développement durable n° 8).
2. En 2018, le Comité exécutif créé à l'initiative du Secrétaire général des Nations Unies a mis en place à l'échelle du système des Nations Unies une politique, un plan d'action et un cadre de responsabilité dans le dessein d'améliorer la prise en compte du handicap² et d'appuyer les actions menées pour ne laisser personne de côté³. Ce cadre appelle à l'adoption de mesures visant à ce que l'accent soit mis non plus sur la lutte contre la discrimination, mais sur l'intégration des droits des personnes handicapées⁴ dans les activités des Nations Unies sous tous leurs aspects. Ainsi, la Stratégie des Nations Unies pour l'inclusion du handicap, approuvée récemment, indique que tous les organismes des Nations Unies doivent s'engager à incorporer systématiquement les droits des personnes handicapées dans tous leurs travaux, que ce soit sur le plan externe, dans les programmes, ou sur le plan interne (Nations Unies, 2019).
3. Dans le prolongement des efforts plus larges déployés à l'échelle des Nations Unies et conformément à la Convention précitée, le FIDA s'est engagé à analyser dans quelle mesure et par quels moyens il convient d'inclure les personnes handicapées dans ses interventions⁵. Or, l'analyse se heurte à l'absence d'informations sur les activités économiques des personnes handicapées dans les zones rurales et au volume limité de données disponibles sur le niveau actuel d'inclusion des personnes handicapées dans les opérations du FIDA.
4. Pour surmonter cet obstacle, au cours de la Onzième reconstitution des ressources du FIDA (FIDA11), le Fonds s'est engagé à établir: i) un rapport analysant l'articulation entre les personnes handicapées et les interventions du FIDA et ii) une proposition concernant la collecte de données relatives aux personnes handicapées, expérimentée dans au moins cinq projets (engagement 2.2 – mesures contrôlables 10 et 11, respectivement). Pour ce faire, le FIDA est convenu de s'inspirer des travaux du Groupe de Washington sur les statistiques des incapacités. L'objectif est de constituer une base factuelle afin que l'on puisse décider dans quelle mesure et par quels moyens inclure les personnes handicapées dans les opérations du FIDA.

¹ Nations Unies, Convention relative aux droits des personnes handicapées et Protocole facultatif (document A/RES/61/106, Nations Unies, 2007).

² L'expression "inclusion du handicap" renvoie à: i) la participation effective des personnes handicapées, dans toute leur diversité, ii) la promotion et l'intégration de leurs droits dans les travaux de l'Organisation, iii) la mise au point de programmes consacrés au handicap et iv) la prise en compte des points de vue liés au handicap conformément à la Convention relative aux droits des personnes handicapées.

³ Nations Unies, Stratégie des Nations Unies pour l'inclusion du handicap (Nations Unies: New York, 2019):

https://www.un.org/fr/content/disabilitystrategy/assets/documentation/UN_Disability_Inclusion_Strategy_french.pdf.

⁴ Par personnes handicapées, on entend des personnes qui présentent des incapacités physiques, mentales, intellectuelles ou sensorielles durables dont l'interaction avec diverses barrières peut faire obstacle à leur pleine et effective participation à la société sur la base de l'égalité avec les autres (Convention relative aux droits des personnes handicapées, article 1).

⁵ Rapport de la Consultation sur la Onzième reconstitution des ressources du FIDA – Ne laisser personne de côté: Le rôle du FIDA dans le Programme 2030 (Rome, 2018).

5. Le présent rapport est consacré à la première de ces mesures et fait brièvement le point sur la seconde. L'objectif du présent rapport est d'exposer les données factuelles réunies sur les liens entre personnes handicapées et emploi rural, y compris le profil des personnes étudiées, leur représentation dans la main-d'œuvre agricole et les types d'activités productives auxquelles elles participent en milieu rural. Ces données factuelles contribueront à déterminer dans quelle mesure les interventions du FIDA peuvent offrir une trajectoire de sortie de la pauvreté aux personnes handicapées.
6. Sur cette toile de fond, dans la section II, on examine les données factuelles disponibles sur les liens entre handicap et pauvreté rurale, tandis qu'à la section III sont exposées les conclusions d'une étude menée en Éthiopie, au Nigéria et en République-Unie de Tanzanie à partir de données représentatives à l'échelle nationale, d'indicateurs optimaux de handicap autodéclaré et d'informations détaillées sur les activités économiques des ménages ruraux et leur évolution dans le temps. Ces pays ont été retenus pour les besoins de l'étude, car ils figurent parmi la petite poignée de pays disposant de données suffisantes pour évaluer l'activité économique des personnes handicapées. La section IV décrit les implications des données factuelles existantes et des nouvelles constatations dans le contexte des opérations du FIDA. La section V expose les mesures que le FIDA est appelé à prendre pour avancer sur ce dossier dans le respect de la Stratégie des Nations Unies pour l'inclusion du handicap.

II. Contexte et objet de l'analyse

7. Aujourd'hui, on compte environ 1 milliard de personnes handicapées dans le monde (quelque 15% de la population mondiale), dont 80% (800 millions) vivent dans des pays en développement (Grech, 2011; Mitra et al., 2013). D'après des estimations établies à partir de données de recensement, ce chiffre déjà élevé est en augmentation. Toutefois, alors que le nombre de personnes handicapées est considérable et que la collecte de données s'est améliorée ces dernières années, peu d'analyses ont été consacrées à leur activité économique, en particulier en milieu rural⁶. À ce jour, les travaux d'analyse se sont résumés à des études de cas et à des enquêtes qualitatives limitées dans l'espace et circonscrites à certains types de handicap.
8. D'après les observations faites dans le premier rapport phare des Nations Unies sur le handicap et le développement (Nations Unies, 2019), les personnes handicapées vivant en milieu rural tendent à être désavantagées. Selon les données issues d'un nombre limité de pays, par comparaison avec les personnes sans handicap vivant en milieu urbain et en milieu rural, les personnes handicapées vivant en milieu rural sont les moins susceptibles d'être allées à l'école (65%) et les moins susceptibles d'avoir un emploi (13%). Les femmes handicapées vivant en milieu rural sont les moins susceptibles d'être assistées par du personnel de santé qualifié lors de leur accouchement (58% des naissances). Les ménages ruraux comptant une personne handicapée sont les moins susceptibles de posséder un téléphone portable (46%)⁷.
9. Si l'analyse de l'incidence, de la distribution et des tendances relatives aux incapacités est limitée par l'absence de données de qualité, les études disponibles indiquent qu'il existe une corrélation positive entre la pauvreté et le handicap, tant au niveau de l'individu qu'au niveau du ménage, et que le handicap est

⁶ Le choix de mettre l'accent sur les données est conforme à la Stratégie des Nations Unies pour l'inclusion du handicap, dans laquelle il est dit que "Le manque de données relatives au handicap, notamment de données qualitatives et ventilées, est un des principaux obstacles à l'évaluation précise du niveau d'inclusion du handicap dans les contextes touchant le développement et l'action humanitaire" (par. 26).

⁷ Nations Unies, *United Nations flagship report on disability and development: Realizing the Sustainable Development Goals by, for and with persons with disabilities* (Département des affaires économiques et sociales des Nations Unies: New York, 2019).

généralement associé à la pauvreté multidimensionnelle⁸. Les personnes handicapées et leur famille rencontrent de plus grands obstacles pour accéder à l'éducation, aux services de santé et à l'emploi⁹, situation en partie attribuable à la stigmatisation, à la discrimination, ainsi qu'aux incapacités physiques¹⁰. En outre, parce qu'elles sont plus susceptibles d'être pauvres, les personnes handicapées sont plus vulnérables en cas de problème de santé et ont moins de ressources pour y faire face. Les impacts multiples qu'elles subissent créent un cercle vicieux¹¹, puisque la pauvreté limite la capacité des personnes handicapées et de leur famille de faire face aux conséquences négatives du handicap. Cette dynamique qui se renforce elle-même est sans doute encore plus présente dans les familles rurales comptant des personnes handicapées dans les pays en développement, où la couverture des services sanitaires et sociaux est souvent limitée.

10. Les données montrent également que les personnes handicapées rencontrent des difficultés pour accéder à l'emploi et gagner un salaire. Parmi elles, les personnes vivant en milieu rural et les femmes tendent à gagner les salaires les plus faibles. Au Pérou, en 2012, 61% des personnes handicapées vivant en milieu rural touchaient un revenu inférieur au salaire minimum, contre 36% des personnes handicapées en milieu urbain; de même, 46% des femmes handicapées étaient payées en dessous du salaire minimum, contre 37% des hommes handicapés¹². Les adultes handicapés ont nettement moins de chances d'occuper un emploi que les adultes sans handicap¹³, et ceux qui travaillent exercent des activités de moindre productivité et occupent des emplois moins bien rémunérés¹⁴. L'une des rares études consacrées aux zones rurales a montré que, lorsque les personnes handicapées ne travaillent pas du tout, c'est uniquement parce que leur handicap est extrêmement invalidant¹⁵.

⁸ Les travaux de Hanass-Hancock J. et Mitra S., *Livelihoods and Disability: The Complexities of Work in the Global South*, reproduits dans S. Grech et K. Soldatic (Eds.), *Disability in the Global South: The Critical Handbook* (2016), 133-149, brossent un tableau d'ensemble à l'échelle mondiale, corroboré par des études approfondies conduites au niveau national par Parodi et Sciulli, *Disability in Italian households: Income, poverty and labour market participation*, in *Applied Economics*, 40 (20), (2008) 2615-2630 for Italy; She P. et Livermore, G.A., *Material Hardship, Poverty, and Disability Among Working-Age Adults* publié dans *Social Science Quarterly*, 88(4), (2007) 970-989 pour les États-Unis; et Mont et Cuon, N.V., *Disability and poverty in Vietnam*. *World Bank Economic Review*, 25(2), (2011) 323-359 pour le Viet Nam.

⁹ World Report on Disability, WHO guidelines approved by the Guidelines Review Committee (2011); Mitra (2013); Loeb M., Eide A. H., Jelsma J., Toni M. ka et Maart, S., *Poverty and disability in Eastern and Western Cape Provinces, South Africa*, publié dans *Disability & Society*, 23(4), (2008), 311-321.; Mont et Cuon (2011); et Filmer D., *Disability, poverty, and schooling in developing countries: Results from 14 household surveys*, publié dans *The World Bank Economic Review*, 22(1) (2008), p. 33-61.

¹⁰ Pour plus d'informations sur la stigmatisation et la discrimination, voir Foley, D. et Chowdhury, J., *Poverty, Social Exclusion and the Politics of Disability: Care as a Social Good and the Expenditure of Social Capital*, publié dans *Chudanga, Bangladesh in Social Policy & Administration*, 41(4) (2007), 372-385; Mitra S. et Sambamoorthi U., *Disability and the Rural Labor Market in India: Evidence for Males in Tamil Nadu*, publié dans *World Development*, 36, (2008) 934-952; et Mitra S. et Sambamoorthi U., *Wage differential by disability status in an agrarian labour market in India*, publié dans *Applied Economics Letters*, 16(14), (2009), 1393-1398.

¹¹ Elwan, A., *Poverty and disability: A survey of the literature*, No. 21315, (1999), 1.; Lustig, D. C. et Strauser, D. R., *Causal relationships between poverty and disability*, in *Rehabilitation Counseling Bulletin*, 50(4), (2007), 194-202; Trani, J-F. et Loeb, M., *Poverty and disability: A vicious circle? Evidence from Afghanistan and Zambia* in *Journal of International Development*, 24(S1), (2010), S19-S52; Graham, Moodley and Selipsky (2013); and 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.

¹² Nations Unies, *United Nations flagship report on disability and development: Realizing the Sustainable Development Goals by, for and with persons with disabilities* (Département des affaires économiques et sociales des Nations Unies: New York, 2019).

¹³ Mactaggart I., Banks L. M., Kuper H., Murthy G. V. S., Sagar J., Oye J. et Polack S., *Livelihood opportunities amongst adults with and without disabilities in Cameroon and India: A case control study* in *PLOS ONE*, 13(4), (2018), travaux réalisés avec des témoins appariés du même âge et du même sexe en Inde et au Cameroun.

¹⁴ Mont et Cuon (2011).

¹⁵ Erb S. et Harriss-White B., *Outcast from social welfare: adult disability, incapacity, and development in rural South India*, (2002); Huang, J., Guo, B. et Kim, Y., *Food insecurity and disability: Do economic resources matter? Social Science Research*, 39(1), (2010), 111-124; Nord, M., *Characteristics of low-income households with very low food security: An analysis of the USDA GPRA Food Security Indicator* (2007) and She and Livermore (2007) ont mis en évidence le fait que le handicap, lorsqu'il limite l'aptitude au travail, accroît considérablement le risque d'insécurité alimentaire. Les travaux de Simeu N. et Mitra S., *Disability and household economic wellbeing: Evidence from Indonesian longitudinal data*, publiés dans *Oxford Development Studies*, 0(0), (2019), 1-14, ont montré que les

11. En outre, des études mettent en lumière de vastes écarts de salaire non justifiés entre les personnes handicapées et les personnes sans handicap présentant des profils professionnels et des situations d'emploi similaires. Ces écarts pourraient trouver leur origine dans des pratiques stigmatisantes ou discriminatoires. Pourtant les études révèlent que les personnes handicapées touchent un revenu inférieur même dans les entreprises familiales, où ces facteurs ne devraient pas entrer en ligne de compte¹⁶. Dans l'optique d'accroître les revenus des ménages et de réduire la pauvreté, il est important de tenir compte du fait que le handicap peut aussi nuire à la capacité de gain des membres de la famille¹⁷, dans la mesure où la présence d'une personne ayant un handicap invalidant au sein du ménage peut réduire le temps de travail que peuvent engager les adultes aidants.
12. Si elle apporte des éclairages utiles, la littérature consacrée aux personnes handicapées souffre généralement des limites inhérentes aux données. Ainsi, les données relatives aux incapacités sont habituellement recueillies dans le cadre de recensements et d'enquêtes d'autodéclaration, où les répondants sont invités à se déclarer handicapés sans qu'un ensemble précis de questions soit posé pour préciser la définition du handicap. La probabilité de sous-déclaration est importante dans ce cas de figure. Pour surmonter ces limites, le Groupe de Washington sur les statistiques des incapacités a établi un ensemble abrégé de questions (voir l'annexe I) destiné à donner un instantané des difficultés que les répondants, âgés de plus de cinq ans, disent rencontrer s'agissant d'entendre, de voir, marcher ou monter les escaliers, se rappeler les choses ou se concentrer, se prendre en charge, comprendre ou se faire comprendre. Les questions sont spécialement conçues pour éviter l'habituel écueil des questionnaires sur le handicap qui exigent du répondant qu'il étiquette sa propre personne ou autrui comme handicapé¹⁸.
13. Même dans les cas où la collecte de données sur les personnes handicapées est suffisante, rares sont les opérations de collecte qui s'intéressent aux activités économiques en milieu rural. En l'absence de telles données, il est difficile de déterminer s'il existe ou non des écarts entre les types d'activités pratiquées et les niveaux de participation des personnes handicapées et du reste de la population rurale. De même, il est impossible de comprendre dans quelle mesure la présence du handicap au sein d'un ménage peut influencer sur les activités économiques auxquelles il participe.
14. Enfin, les données utilisées dans de nombreuses études antérieures ont été recueillies par observation de différentes personnes handicapées à un point fixe dans le temps, ou sans tenir compte des différences temporelles. Or, il est difficile de déceler des liens de causalité entre handicap et parcours de vie sur la base d'un instantané. Pour pallier ces lacunes, il est possible d'utiliser des données de panel, recueillies dans les mêmes ménages et auprès des mêmes individus au fil du temps.

III. Moyens d'existence des personnes handicapées en zones rurales

15. Les données factuelles présentées ci-après sont tirées d'une étude commandée par le FIDA au sujet des personnes handicapées et du tissu économique rural (voir le rapport complet reproduit en appendice)¹⁹. L'étude, qui s'est portée sur les moyens

ménages les plus pauvres comprenant des personnes handicapées s'adaptent à cette situation en réduisant leurs dépenses alimentaires.

¹⁶ Mont et Cuon (2011).

¹⁷ Nord (2007).

¹⁸ Le questionnaire du Groupe de Washington est la méthode de suivi des objectifs de développement durable privilégiée par les organismes des Nations Unies, la société civile et les experts indépendants pour dénombrer les personnes handicapées dans le monde. C'est aussi l'outil recommandé pour la collecte d'informations sur le handicap lors du cycle de recensements de 2020 (Groce et Mont, 2017).

¹⁹ Tiwari W., Savastano S., Improta M. et Winters P., *Rural economic activities and persons with disabilities in Sub-Saharan Africa* (2019, à paraître).

d'existence ruraux, s'est appuyée sur les définitions des incapacités du Groupe de Washington²⁰ et sur des données de panel. L'équipe de recherche a mis à profit les ensembles de données de panel disponibles, extraits de questionnaires comparables administrés dans trois pays africains: l'Éthiopie, le Nigéria et la République-Unie de Tanzanie (encadré 1). Ces ensembles de données sont uniques en ce qu'ils s'affranchissent des trois limites inhérentes aux autres ensembles de données: ils ont été établis à l'aide du cadre du Groupe de Washington; ils contiennent des données détaillées sur les activités économiques des ménages et des individus en zones rurales et, enfin, ils comprennent plusieurs séries de données.

Encadré 1

Données utilisées pour les besoins de l'étude sur les personnes handicapées et les activités économiques en milieu rural en Afrique subsaharienne

Cette étude, réalisée à la demande du FIDA, a été conduite à l'aide de données de panel issues de l'étude sur la mesure des niveaux de vie et des enquêtes intégrées sur l'agriculture (LSMS-ISA) consacrées à l'Éthiopie, au Nigéria et à la République-Unie de Tanzanie. Trois séries de données ont été établies pour chaque pays. Les enquêtes LSMS-ISA permettent de recueillir des informations sur toutes les activités économiques pratiquées dans des échantillons représentatifs à l'échelle nationale et représentatifs de la population rurale du pays.

Inspiré du cadre défini par le Groupe de Washington pour les individus âgés de plus de cinq ans, le questionnaire LSMS-ISA évalue la situation de handicap du répondant au moyen de six questions portant sur les difficultés que le répondant déclare rencontrer pour entendre, voir, marcher ou monter les escaliers, se rappeler les choses ou se concentrer, se prendre en charge, et comprendre et se faire comprendre. Dans la mesure où ces questions d'enquête sont sensiblement similaires d'un pays à l'autre et d'une année sur l'autre, elles offrent une occasion unique de procéder à une analyse comparative des données de panel entre pays.

Pays	Série 1	Série 2	Série 3
Éthiopie	2011/2012	2013/2014	2015/2016
Nigéria	2010/2011	2012/2013	2015/2016
République-Unie de Tanzanie	2008/2009	2010/2011	2012/2013

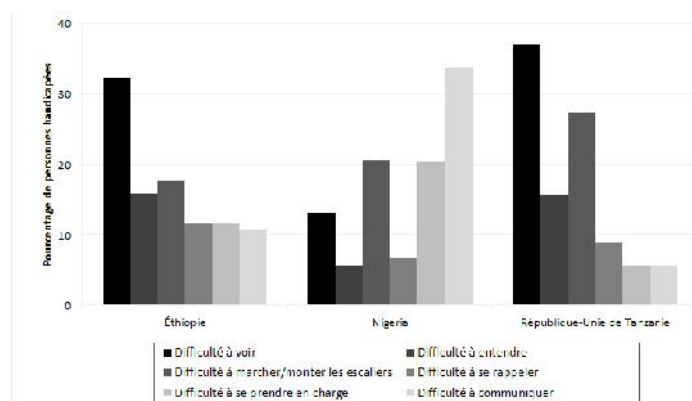
16. L'analyse du FIDA s'est centrée sur la relation entre le handicap et différentes variables-réponses en rapport avec les activités économiques pratiquées et le niveau de pauvreté. La situation de handicap a été ventilée comme suit: i) toutes formes de handicap; ii) handicap physique; iii) handicap sévère. Les variables-réponses ont été regroupées comme suit: i) pauvreté; ii) sécurité alimentaire; iii) activités économiques; iv) variables relatives à l'emploi du temps à l'échelle de l'individu. Les variables-réponses sur la pauvreté et la sécurité alimentaire ont été mesurées à l'aide de données objectives et subjectives fournies par les chefs de famille. Les données sur les activités économiques ont été déclarées par le chef de famille et portaient à la fois sur la participation aux différents types d'activité économique et sur les revenus.
17. Pour ce qui concerne le profil démographique et les formes de handicap, les figures 1 et 2 indiquent respectivement la proportion de personnes handicapées présentant différentes formes de handicap et la gravité du handicap, par pays. En moyenne, 8% de la population rurale en Éthiopie, 6% au Nigéria et 7% en République-Unie de Tanzanie présentent une forme de handicap. La proportion de personnes présentant un handicap physique est plus élevée que la part de celles présentant un handicap cognitif en Éthiopie et en République-Unie de Tanzanie, et la prévalence des handicaps cognitifs est plus importante au Nigéria que dans les deux autres pays. En ce qui concerne la gravité

²⁰ Selon le Groupe de Washington, une personne présente une incapacité si elle a "beaucoup de difficultés" à accomplir au moins une des activités suivantes: i) voir, même en portant des lunettes; ii) entendre, même en portant un appareil auditif; iii) marcher ou monter les escaliers; iv) se rappeler les choses ou se concentrer; v) se prendre en charge, par exemple se laver ou s'habiller; vi) communiquer (par exemple, comprendre autrui ou communiquer avec autrui).

du handicap, la plupart des personnes handicapées ont déclaré rencontrer seulement "quelques difficultés" (environ 80% en Éthiopie et 65% au Nigéria et en République-Unie de Tanzanie). Si l'on ne peut déterminer clairement pourquoi de tels écarts existent entre les pays ou les formes de handicap, il convient de souligner que, contrairement aux troubles de la vue ou de l'audition qui peuvent être échelonnés par niveau de gravité, la question de la communication et de la prise en charge est peut-être plus binaire (une personne rencontre des difficultés pour communiquer ou n'en rencontre pas).

Figure 1

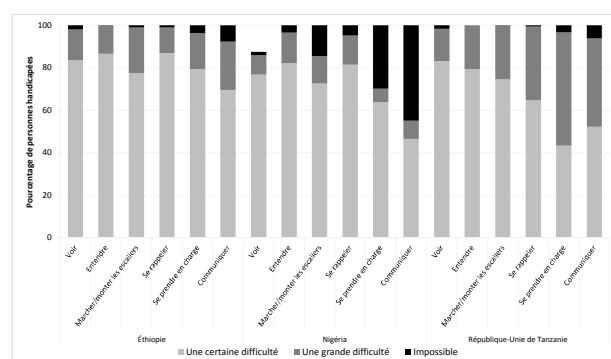
Proportion de personnes handicapées présentant différentes formes de handicap



Source: Tiwari W., Savastano S., Improtta M. et Winters, P., *Rural economic activities and persons with disabilities in sub-Saharan Africa* (Voir appendice).

Figure 2

Répartition des degrés de gravité par forme de handicap



Source: *Ibid.*

- Confirmant les résultats d'autres analyses descriptives, l'étude a montré qu'une personne présentant un handicap aura plus de probabilité de vivre dans un ménage à faible revenu; toutefois, les indicateurs qui illustrent cette association diffèrent dans les trois pays. En Éthiopie par exemple, les ménages connaissant une situation de handicap ont des niveaux de revenus et de dépenses plus faibles que les ménages épargnés par le handicap. Pourtant, au Nigéria, les ménages comptant une personne handicapée ont des revenus inférieurs, mais des niveaux de dépenses similaires. L'agriculture semble fournir une part de revenus similaire aux ménages comptant une personne handicapée dans les trois pays. Toutefois, d'autres éléments composant les moyens d'existence des personnes handicapées, tels que la dépendance à l'égard des prestations sociales et la capacité de pratiquer différents types d'activités non agricoles, varient d'un pays à l'autre. Cela pourrait aussi s'appliquer aux caractéristiques des programmes accessibles aux personnes handicapées dans les différents pays.

19. L'analyse approfondie des déterminants de la pauvreté et de la sécurité alimentaire, des types d'activités économiques pratiquées et de l'emploi du temps individuel a mis en lumière d'importants écarts entre les pays, mais elle a aussi permis de dégager des thématiques communes (voir le tableau 1).
20. Premièrement, alors que les ménages comptant au moins une personne handicapée tendent à être associés à au moins un indicateur de pauvreté – revenus faibles ou niveau de dépenses faible –, on constate que les effets du handicap sur la plupart des mesures de la pauvreté disparaissent lorsqu'on examine les caractéristiques du ménage et du chef de famille. En d'autres termes, le lien entre handicap et pauvreté n'est pas direct, mais plutôt induit par un éventail varié de facteurs. Par conséquent, il est possible de trouver des points d'entrée pour rompre le lien entre handicap et pauvreté.
21. Deuxièmement, les données montrent des écarts significatifs dans les possibilités offertes aux personnes handicapées et à leur famille à l'échelle nationale. À l'examen des parts de revenus constituant les moyens d'existence des ménages et des données sur l'emploi du temps, on constate que les ménages comptant une personne handicapée sont le plus à risque de souffrir d'insécurité alimentaire lorsque la participation aux activités agricoles est élevée (par exemple, en Éthiopie et en République-Unie de Tanzanie). Cela pourrait indiquer que les efforts déployés par les membres de la famille pour prendre en charge le proche présentant un handicap absorbent des ressources qui seraient autrement consacrées à la sécurité alimentaire du ménage.

Tableau 1

Résumé des principales conclusions des régressions sur données de panel, présentées par pays

<i>Pays</i>	<i>Pauvreté et insécurité alimentaire</i>	<i>Sources de moyens d'existence</i>	<i>Données sur l'emploi du temps</i>
Éthiopie	Les écarts entre les ménages comptant une personne handicapée et ceux n'en comprenant pas disparaissent pour ce qui concerne le niveau de revenu ou les dépenses de consommation. Les ménages comptant une personne handicapée sont plus à risque de souffrir d'insécurité alimentaire.	Les ménages comptant une personne handicapée reçoivent une part supérieure des revenus tirés du travail agricole et des prestations sociales. Ce dernier point vaut tout particulièrement pour les ménages dans lesquels vit une personne présentant un handicap grave.	Le handicap réduit la probabilité de pratiquer une activité agricole, mais n'influe pas sur la probabilité de participation à des activités non agricoles.
Nigéria	Les ménages comptant une personne handicapée sont plus susceptibles de se situer dans les deux premiers quintiles, mais leur niveau général de revenus ne s'écartent pas de ceux des autres ménages.	Les ménages comptant une personne handicapée sont moins susceptibles de participer à des activités non agricoles et plus susceptibles d'être allocataires.	Les personnes handicapées ont dans l'ensemble moins de chances de travailler: elles sont moins susceptibles d'accéder à l'emploi agricole, non agricole ou à d'autres formes d'emploi rémunéré.
République-Unie de Tanzanie	Les ménages comptant une personne handicapée sont plus susceptibles d'occuper les deux premiers quintiles des dépenses non alimentaires et consacrées à l'éducation, et sont plus à risque d'être touchés par l'insécurité alimentaire.	Les ménages comptant une personne handicapée ont accès aux mêmes sources de revenu que les ménages ordinaires.	Il n'existe aucune différence – globale ou par sexe – dans l'emploi du temps des personnes handicapées et des personnes ne présentant pas de handicap.

Source: *Ibid.*

22. En outre, les données factuelles révèlent que les personnes handicapées prennent part à un éventail varié d'activités qui offrent des perspectives de complément de revenus aux familles. La nature de ces activités varie d'un pays à l'autre: en Éthiopie et au Nigéria, les personnes handicapées sont moins susceptibles de travailler dans le secteur agricole que dans les secteurs non agricoles; cette tendance est particulièrement différenciée par sexe au Nigéria. En Éthiopie, alors que les personnes handicapées ont sensiblement les mêmes probabilités de travailler dans le secteur non agricole que les personnes sans handicap, les femmes sont moins susceptibles d'y prendre part.

23. Dans le tableau 2 ci-dessous, le handicap est analysé au regard des facteurs suivants: i) toutes formes de handicap; ii) handicap grave; iii) handicap physique ("moteur")²¹. D'après les données, hormis au Nigéria, les personnes handicapées courent plus de risques d'être touchées par la pauvreté et l'insécurité alimentaire, quelle que soit leur forme de handicap. Comme indiqué dans le tableau 2, il existe une corrélation positive entre le handicap et la source de revenus. Tant le fait de présenter un handicap physique que la gravité du handicap ont à l'évidence un effet préjudiciable sur l'activité économique en Éthiopie et au Nigéria. Enfin, une corrélation indirecte constante se dégage entre l'emploi du temps et le handicap, en particulier en cas de handicap grave. Toutefois, à moins d'être grave, le handicap physique n'empêche pas les individus de participer aux activités agricoles ("emploi du temps dans l'agriculture").

Tableau 2
Relation entre handicap et moyens d'existence ruraux

Forme de handicap/ variables réponses	Éthiopie			Nigéria			République-Unie de Tanzanie		
	Toutes formes	Grave	Moteur	Toutes formes	Grave	Moteur	Toutes formes	Grave	Moteur
Pauvreté et insécurité alimentaire	+	+	+	+	NS	+	+	+	+
Source de revenus	+	-	+	+	-	-	NS	NS	-
Emploi du temps dans l'agriculture	-	-	+	-	-	+	NS	NS	NS

Note: +: relation significative directe entre la forme de handicap et l'indicateur réponse; -: relation indirecte; NS: pas de relation significative sur le plan statistique.

Source: *Ibid.*

IV. Implications pour les opérations du FIDA

24. Les résultats de l'analyse ont deux implications majeures pour les opérations du FIDA. D'une part, tant les données sur les sources de revenus que celles sur l'emploi du temps indiquent que les personnes handicapées et leur famille ont une activité économique dans les zones rurales. Les personnes handicapées sont donc en mesure de participer activement à des projets de développement spécialement adaptés à leurs profils particuliers de handicap.
25. D'autre part, bien qu'il existe une association entre handicap et faible niveau de revenu, les éléments factuels disponibles montrent qu'il ne s'agit pas d'un lien direct et qu'il existe des points d'entrée pour briser cette association. En effet, l'analyse des données de panel donne à penser que cette association est dictée par différents facteurs, sur lesquels les interventions menées au titre des projets pourraient se concentrer. Par exemple, les personnes handicapées pourraient avoir à supporter des coûts de mobilité prohibitifs pour se rendre au travail: intervenir directement sur ces coûts faciliterait l'accès des personnes handicapées au marché du travail.
26. Le FIDA commence à intégrer le handicap dans ses opérations, ainsi que dans son travail analytique. S'il procède encore au cas par cas, en élaborant des interventions spécifiques pour les personnes handicapées et en assurant leur suivi, il est possible de mettre en évidence l'expérience engrangée par le FIDA dans différents pays et différentes régions (voir l'encadré 2). Les projets menés ont ciblé directement ou indirectement les personnes handicapées, et permis d'élaborer des

²¹ Le handicap moteur ou physique désigne toute forme de trouble affectant la vue, l'audition, la marche ou la capacité de monter les escaliers.

mesures spécifiques ou d'adapter les activités au handicap. Ces projets, entre autres éléments, éclaireront les interventions futures du FIDA et la démarche institutionnelle qu'il adoptera sur le handicap.

Encadré 2

Les opérations du FIDA et les personnes handicapées

Cameroun

En 2014, le Programme de promotion de l'entrepreneuriat agropastoral des jeunes (PEA – Jeunes) a été exécuté dans quatre régions abritant quelque 40% de la jeunesse rurale du pays. Le programme PEA – Jeunes est non seulement axé sur les jeunes, mais il comprend aussi une importante composante relative à l'inclusion sociale. Dans l'optique de contribuer à l'avènement d'une économie plus inclusive, le PEA – Jeunes est allé à la rencontre de l'un des groupes les plus marginalisés du Cameroun, les personnes handicapées. Un processus de ciblage social est utilisé pour recenser et sélectionner les personnes handicapées et les faire participer aux activités du programme. Ce processus repose sur les principes d'équité et d'accès à l'information pour tous, les informations relatives aux possibilités offertes à chacun étant diffusées jusqu'aux zones les plus reculées à travers différents circuits, par des messages en français, en anglais et dans les langues locales. Une fois que les candidats potentiels sont recensés, les bénéficiaires sont sélectionnés en fonction de leur degré de préparation et de leur disposition à participer au processus d'incubation. La priorité est donnée aux jeunes de 18 à 35 ans, issus de milieux socioéconomiques particulièrement défavorisés, justifiant d'une expérience du commerce agropastoral et présentant un handicap moteur. Le programme garantira l'intégration d'au moins 150 jeunes handicapés au moyen de l'entrepreneuriat agropastoral.

Chine

Le FIDA a noué avec succès un partenariat avec la Fédération chinoise des personnes handicapées, l'objectif étant de renforcer les compétences des femmes rurales et des personnes handicapées aptes à exercer une activité économique pour favoriser l'emploi et la création de revenus. Ce partenariat a été établi dans le cadre du Projet de lutte contre la pauvreté dans la région montagneuse du Qinghai Liupan, qui comprend une composante spécifiquement axée sur l'appui aux moyens d'existence non agricoles pour les personnes handicapées économiquement capables et les femmes. La Fédération et les services de l'emploi des communes coordonnent cette composante. Dans cinq communes 720 personnes handicapées résidant dans des villages ruraux ont été formées, ce qui a permis de réaliser pleinement les cibles fixées. Les activités de formation se poursuivront au titre du projet dans trois autres communes en 2019 et 2020. La composante a donné lieu à des initiatives intéressantes et à de solides partenariats entre les organismes d'exécution, les instituts de formation, les services de l'emploi du Gouvernement et les sociétés qui embauchent.

Honduras

Dans le cadre du Projet d'appui à la compétitivité et au développement durable dans la région frontalière du Sud-Ouest au Honduras, les tisserands et autres artisans traditionnels, y compris les personnes handicapées, bénéficient d'un appui pour créer leur microentreprise et se positionner sur les marchés. Le FIDA travaille avec le Centro Integral Misión de Amor, qui a vocation à créer des possibilités économiques pour les jeunes handicapés. Au titre de ce projet, 18 jeunes vivant avec une surdité ou une autre forme de handicap ont appris à tisser sur des métiers traditionnels et à coudre l'étoffe sur des vêtements et accessoires. Ils ont bénéficié d'une formation spécialisée en couture, gestion, commercialisation et achats. Le projet a aussi permis d'accorder des dons en vue de l'amélioration des installations et machines. Le coût des fils et l'approvisionnement en fils posant problème à plusieurs des entreprises artisanales concernées, l'équipe du projet cherche à les aider à grouper les achats de matières premières venues du Guatemala. Des discussions sont également en cours avec les autorités locales quant à la possibilité de mettre en place un marché artisanal, où les groupes puissent vendre leurs produits aux touristes.

27. Enfin, concernant la collecte de données sur les personnes handicapées, le FIDA s'est engagé à élaborer une proposition afin de ventiler les données sur les personnes handicapées dans les opérations du FIDA et d'expérimenter cette approche dans au moins cinq projets à l'aide des méthodes utilisées par le Groupe de Washington sur les statistiques des incapacités (FIDA11, mesure contrôlable 11). La première phase de sélection des projets est achevée et l'ensemble abrégé de questions sur les incapacités élaboré par le Groupe de Washington sera mis à l'essai dans les projets répertoriés dans le tableau 3.

Tableau 3
Projets retenus pour l'exercice pilote

Asie et Pacifique	Népal: Projet en faveur de l'adaptation des petits paysans des zones collinaires
Afrique orientale et australe	Malawi: Programme de développement de l'irrigation dans les zones rurales
Amérique latine et Caraïbes	Brésil: Projet de développement durable dans les régions de Cariri et Seridó
Proche-Orient, Afrique du Nord et Europe	Géorgie: Projet relatif à la modernisation et à l'accès aux marchés de la production laitière
Afrique de l'Ouest et du Centre	Libéria: Projet d'élargissement de l'arboriculture-II

28. Outre cette expérimentation pilote, la deuxième phase du Projet de développement rural des Îles Salomon a permis de générer un volume important de données sur les personnes handicapées, recueillies à l'aide du système d'information de la Banque mondiale (l'un des cofinanceurs du projet). Parmi les données recueillies, on trouve des informations sur les personnes handicapées de 1 570 villages situés dans les neuf provinces visées par le projet. Cette opération de collecte de données, conjuguée à l'exercice pilote, devrait jeter les bases du futur système de collecte de données du FIDA sur les personnes handicapées.

V. Prochaines étapes

29. Les données factuelles disponibles et la littérature indiquent que les ruraux handicapés ont une activité économique, sont en mesure de gagner un revenu et ont donc la possibilité de s'engager dans une trajectoire productive pour sortir de la pauvreté. Par ailleurs, il est démontré que le handicap a une incidence sur les ménages. Ces conclusions, couplées aux données d'expérience et aux enseignements tirés par d'autres organisations internationales, peuvent éclairer le programme d'action du FIDA sur les personnes handicapées et contribuer à déterminer la meilleure approche à adopter pour potentiellement inclure les personnes handicapées dans ses interventions.
30. Le FIDA continuera d'étoffer sa base de savoirs dans ce domaine et de cerner les points d'entrée qui lui permettraient de venir en aide aux personnes handicapées dans le cadre de ses opérations. Ce travail contribuera à l'action plus large menée au sein du système des Nations Unies pour progresser de manière durable et transformatrice sur la voie de l'inclusion du handicap dans tous les aspects de son action.

Groupe de Washington sur les statistiques des incapacités: Indicateurs

L'analyse présentée dans le rapport s'appuie sur des données recueillies par le Groupe de Washington sur les statistiques des incapacités.

Le Groupe a élaboré, mis à l'essai et adopté un ensemble abrégé de questions, destinées à être incluses dans les questionnaires de recensement national et d'enquête. Ces questions traduisent les avancées obtenues dans la conceptualisation du handicap et prennent pour cadre conceptuel la Classification internationale du fonctionnement, du handicap et de la santé de l'Organisation mondiale de la Santé.

L'ensemble abrégé se compose de six questions:

1. Avez-vous du mal à voir, même en portant des lunettes?
2. Avez-vous du mal à entendre, même en portant un appareil auditif?
3. Avez-vous du mal à marcher ou à monter les escaliers?
4. Avez-vous des trous de mémoire ou du mal à vous concentrer?
5. Avez-vous du mal à vous prendre en charge, par exemple à vous laver ou à vous habiller?
6. Avez-vous du mal à communiquer avec vos propres mots (par exemple, à comprendre autrui ou à communiquer avec autrui)?

Pour chaque question, on trouve quatre réponses possibles:

1. Non, aucune difficulté
2. Oui, quelques difficultés
3. Oui, beaucoup de difficultés
4. Incapacité totale

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

Smriti Tiwari¹, Sara Savastano², Martina Improta², Paul C. Winters²

¹ Skidmore College, ² IFAD

Highlights²²

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 questionnaire²³ 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 understood²⁴. 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 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

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.

disability²⁵. 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 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

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 .

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:

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

where i denotes the entity (individual or household depending on the regression), t denotes the respective survey wave. The main independent variable, d_{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:

$$Y_{it} = \beta d_{it} + \pi g_{it} + \tau(g * d)_{it} + \alpha X_{it} + \gamma_i + \delta_t + \varepsilon_{it}$$

where $g * d$ 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, d_{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).

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Figures²⁶

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

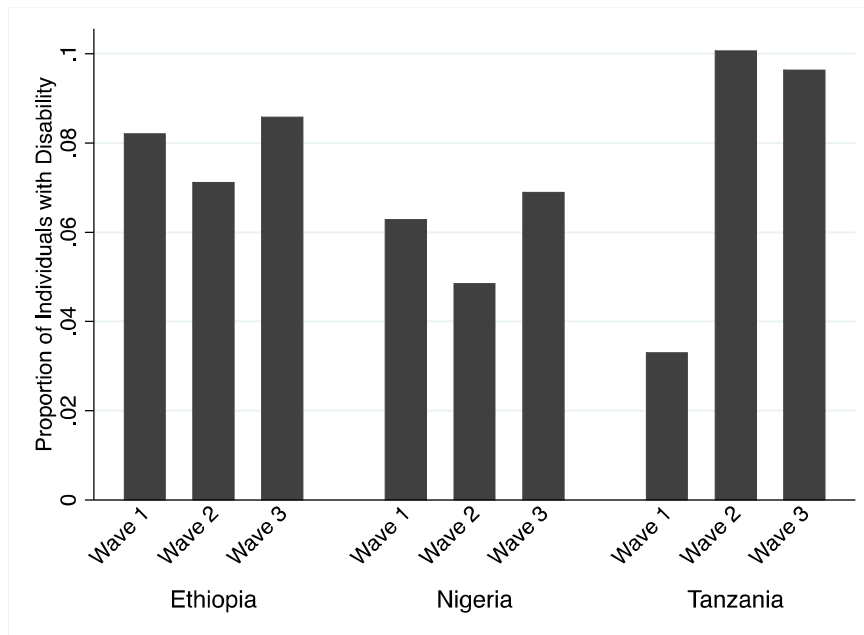


Figure 2: Proportion of PwD with different kinds of disability (panel)

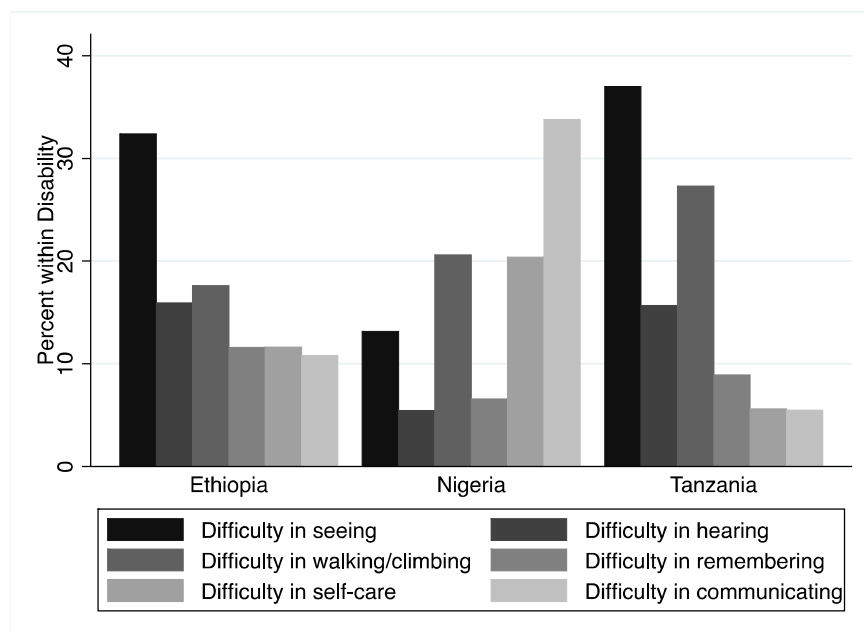


Figure 3: Severity distribution by disability kind (panel)

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 .

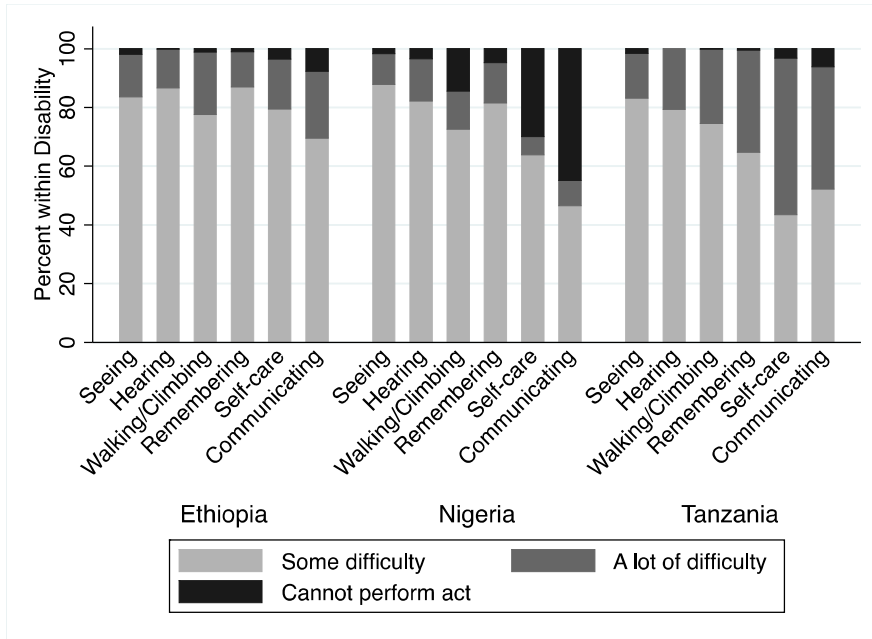


Table 1: Weighted Averages of individual characteristics by disability status

Individual Characteristics	Ethiopia			Nigeria			Tanzania		
	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 (9 th and 10 th grade)	0.046	0.066	0.031**	0.045	0.117	0.000***	-	-	-
Education: Secondary (11 th and 12 th 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

Variables	Ethiopia			Nigeria			Tanzania		
	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

Outcome Variables	Coefficients/Marginal Effects								
	Ethiopia			Nigeria			Tanzania		
	Any disability y	Severe Disability	Physical Disability y	Any disability	Severe Disability y	Physical Disability y	Any disability y	Severe Disability y	Physical Disability y
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**	-
In the lowest two quintiles of adult equivalent expenditure on education *	0.0225*	0.0485**	-	0.079***	0.0348	-0.026	0.0138	0.026	3.240***
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
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
Limited variety in the last 7 days? *	0.0268**	*	0.00165	0.0347*	-0.015	-0.0117	0.0672**	0.0468	0.009
Limited portion size in the last 7 days? *	0.0389**	*	0.0133	0.00997	-0.024	-0.0170	0.0143	0.0474**	-0.008
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
Adults restricted consumption in the last 7 days? *	0.0263**	*	0.00327	-0.00264	-0.0056	-0.0130	0.00420	0.0338**	-0.0149
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
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

Outcome Variables	Coefficients/Marginal Effects									
	Ethiopia			Nigeria			Tanzania			
	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	-	
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***	-	
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

Outcome Variables	Marginal Effects									
	Ethiopia			Nigeria			Tanzania			
	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**	-	0.0823***	-	-0.14***	0.116***	0.028	-0.104	0.0564	
		0.0849**		0.155***						
Non-agricultural activities in the last 7 days?	-0.0018	-0.00172	0.0431***	-	-0.102**	0.000	0.006	0.046	-0.038	
				0.116***						
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	-	-0.173*	0.0318	0.029	-0.025	-0.185	
				0.214***						
Non-agricultural activities in the last 7 days?	-	-0.00454	-	0.0182	0.303**	-0.006	0.020	0.638	0.089	
	0.0491***		0.0491***							
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

Variables	Ethiopia			Nigeria			Tanzania		
	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

Variables	Ethiopia			Nigeria			Tanzania		
	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

Variables	Ethiopia			Nigeria			Tanzania		
	PwD	Non-PwD	P-value	PwD	Non-	P-value	PwD	Non-	P-value
<u>Does having a disability affect whether individuals engage in:</u>									
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*						
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	