

Rural youth in the context of fragility and conflict

by
Ghassan Baliki
Tilman Brück
Neil T. N. Ferguson
Wolfgang Stojetz

54 IFAD
RESEARCH
SERIES



The IFAD Research Series has been initiated by the Strategy and Knowledge Department in order to bring together cutting-edge thinking and research on smallholder agriculture, rural development and related themes. As a global organization with an exclusive mandate to promote rural smallholder development, IFAD seeks to present diverse viewpoints from across the development arena in order to stimulate knowledge exchange, innovation, and commitment to investing in rural people.

The opinions expressed in this publication are those of the authors and do not necessarily represent those of the International Fund for Agricultural Development (IFAD). The designations employed and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of IFAD concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. The designations “developed” and “developing” countries are intended for statistical convenience and do not necessarily express a judgement about the stage reached in the development process by a particular country or area.

This publication or any part thereof may be reproduced for non-commercial purposes without prior permission from IFAD, provided that the publication or extract therefrom reproduced is attributed to IFAD and the title of this publication is stated in any publication and that a copy thereof is sent to IFAD.

Authors:

Ghassan Baliki, Tilman Brück (Team Leader), Neil T. N. Ferguson and Wolfgang Stojetz

© IFAD 2019

All rights reserved

ISBN 978-92-9072-971-6

Printed December 2019



Rural youth in the context of fragility and conflict

by
Ghassan Baliki
Tilman Brück
Neil T. N. Ferguson
Wolfgang Stojetz



54 IFAD
RESEARCH
SERIES

This paper was originally commissioned as a background paper for the 2019 Rural Development Report: *Creating opportunities for rural youth*.

www.ifad.org/ruraldevelopmentreport

Acknowledgements

This background paper was prepared for the Rural Development Report 2019 “Creating Opportunities for Rural Youth”. Its publication in its original draft form is intended to stimulate broader discussion around the topics treated in the report itself. The views and opinions expressed in this paper are those of the author(s) and should not be attributed to IFAD, its Member States or their representatives to its Executive Board. IFAD does not guarantee the accuracy of the data included in this work. For further information, please contact ruraldevelopmentreport@ifad.org. IFAD would like to acknowledge the generous financial support provided by the Governments of Italy and Germany for the development of the background papers of the 2019 Rural Development Report.

About the authors

Ghassan Baliki is a senior researcher at ISDC and a Research Associate at the Development Economics and Food Security research group at Leibniz Institute of Vegetable and Ornamental Crops IGZ near Berlin. He obtained his PhD from Humboldt University of Berlin, where he studied violent conflict dynamics in Syria at the micro level. Ghassan’s research focuses on the interlinkages between violent conflict, fragility and food security, particularly in the Middle East and North Africa (MENA). His methodological areas of expertise are experimental and quasi-experimental impact evaluations, quantitative statistical and spatial analysis, and micro-level data collection. Ghassan previously was a Marie Curie Fellow with TAMNEAC (Training and Mobility Network for the Economic Analysis of Conflict) at the German Institute for Economic Research (DIW Berlin) and he has worked as a consultant for the EU, the Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ) and the World Bank.

Tilman Brück is the founder and Director of ISDC. He is also Visiting Professor at the London School of Economics and Political Science (LSE) and Team Leader – Development Economics and Food Security at IGZ near Berlin. Tilman is also the co-founder and codirector of the Households in Conflict Network (HiCN) and the principal investigator of the Life in Kyrgyzstan Study (LiK Study). His research interests focus on the economics of household behaviour and well-being in areas affected by violent conflict, fragility and humanitarian emergencies, including the measurement of violence and conflict in household surveys and the impact evaluation of programmes in conflict-affected areas. He has published over 40 articles in peer-reviewed journals (including *Demography*, *Journal of Comparative Economics*, *Journal of Conflict Resolution*, *Journal of Development Economics*, *Journal of the European Economic Association*, *Journal of Peace Research* and *World Development*) and edited over a dozen books and special issues of journals on the economics of conflict and insecurity. Tilman has led, as a principal investigator, several impact evaluations in conflict-affected and fragile states. Tilman was previously Director of SIPRI, Professor of Development Economics at Humboldt University of Berlin, and Head of the Department of Development and Security at DIW Berlin. He has also worked as a consultant for the German Federal Ministry of Economic Cooperation and Development (BMZ), the European Commission, the UK Department for International Development (DFID), GIZ, the International Labour Organization (ILO), Kreditanstalt für Wiederaufbau (KfW), the Organisation for Economic Co-operation and Development (OECD), the United Nations Development Programme (UNDP), the United States Agency for International Development (USAID) and the World Bank. Tilman studied economics at the University of Glasgow and the University of Oxford, and obtained his doctorate in economics from the University of Oxford.

Neil Ferguson is a senior researcher at ISDC. He obtained his PhD in economics in July 2013 from Heriot-Watt University, Edinburgh, focusing on theoretical and empirical analysis of the role of multiple aggressors in civil conflicts. His current research interests address a broad cross-section of theoretical and empirical conflict and development topics, including the role of micro-dynamics in conflict intensity, behavioural impacts of conflict involvement, and the relationship between conflict and economic behaviour. Neil has ongoing research projects focusing on conflicts and violence in Northern Ireland, Kenya, Mexico and the Middle East. Previously, Neil worked at DIW Berlin and the Stockholm International Peace Research Institute (SIPRI).

Wolfgang Stojetz is a senior researcher at ISDC and a postdoctoral research fellow in the Department of Economics at Humboldt University of Berlin. Previously, he was a pre-doctoral research fellow at Yale University and a research affiliate at DIW Berlin. Wolfgang's primary research interests are the economic, social and institutional interactions of development and violent mass conflict. In his doctoral dissertation, he studied the causal impacts of wartime military service on long-term social behaviour. The analysis draws on 10 months of fieldwork conducted in central Angola and makes use of primary quantitative data at the household, individual and partner levels. Wolfgang studied physics, mathematics and economics at the University of Colorado (Boulder), the Instituto Superior Tecnico in Lisbon, Portugal, and the University of Regensburg, Germany, and in the Berlin Doctoral Program in Economics and Management Science (BDPEMS). He holds a PhD in economics from Humboldt University of Berlin, and a diploma in Physics from the University of Regensburg (equivalent to MSc). Wolfgang is an alumnus of the Fulbright Program, the Lindau Nobel Laureate Meeting and the Royal Economic Society (RES) Junior Researcher Symposium, and has received grants from the BDPEMS, German Academic Exchange Service (DAAD), German Excellence Initiative, German Physical Society (DPG), Humboldt University of Berlin, Portuguese Research Council (FCT) and United States Institute of Peace (USIP). He has also served as a short-term consultant to the Food and Agriculture Organization of the United Nations (FAO), ILO, Peacebuilding Support Office (PBSO), UNDP and World Bank.

Table of contents

1. Introduction	1
1.1 Who are the rural youth? Data and background	3
1.2 Rural youth and conflict in the context of transformation	4
1.3 Conceptual background and approach	4
1.4 Scope and disclaimer	6
2. The interaction of conflict, violence, fragility and rural opportunity	6
3. The life stages approach	11
3.1 The prenatal stage	12
3.2 The early-life stage	13
3.3 The education stage	14
3.4 The transition to employment stage	15
3.5 The employment stage	15
3.6 The family formation stage	16
4. Cross-cutting themes	17
4.1 Agriculture	17
4.2 Migration	18
4.3 Community participation and social cohesion	19
4.4 Radicalization and young people as fighters	20
4.5 Gender-based and sexual violence	20
5. Analyses for pull-out boxes	21
5.1 Education	23
5.2 Employment	23
5.3 Idleness	23
6. DDR programming pull-out	24
7. Conclusions	25
References	28
Appendix	40

Abstract

Despite accounting for only 7 per cent of the world's population, rural youth account for more than 10 per cent of the world's conflict-exposed population. In 2016, alone, over 350 million rural youth lived in conflict-affected countries. Despite conflict's being defined as "development in reverse", however, we find a general lack of research focusing specifically on young people living in rural areas. Yet, from wider literature, we know that conflict is a cause of adversities across a range of economic and non-economic indicators. When young people experience violence in consecutive life stages, adversities from one stage – such as weakened education – can be carried forward into subsequent life stages - such as transition to employment. In this background paper, we show that exposure to violence increases infant mortality, reduces birthweight, harms child health, damages human capital accumulation, restricts performance in education and interacts negatively with labour market opportunities. Despite this accumulated knowledge, however, we note that key knowledge gaps remain, especially when it comes to understanding the programmes that can mitigate the damage exposure to conflict causes. There is, therefore, an urgent need to understand how and why exposure to conflict harms the lives of rural youth, and perhaps more importantly, how it harms those lives differently from those of other socio-demographic groups. Given that rural youth are disproportionately affected by conflict, there is also a need for the design of, and learning from, programmes that are specifically targeted at protecting and empowering rural youth during the post-conflict phase.

Summary

Conflict has been described as "development in reverse". It is the cause of a wide range of adversities, across a range of economic and non-economic indicators: from childhood health and mortality to human capital accumulation, to labour market outcomes and to the quality of institutions. That a number of these outcomes have also been defined as drivers of conflict shows the pernicious cycles that might develop in conflict-affected areas. In this context, we aim to develop a nuanced understanding of how conflict can affect a very particular and vulnerable group: rural youth. Given that rural youth have different endowments from other sociodemographic groups, how they experience conflict and the consequences of this exposure are of key importance. Furthermore, young people can also be – and often are suspected of being – drivers of conflict in their own right. Hence understanding how rural youth may be affected by conflict may help break the cycle of violence and underdevelopment.

As a first port of call, we seek to understand who the rural youth exposed to conflict are. We conservatively estimate that, in 2016 alone, at least 350 million rural youth lived in conflict-affected countries. Despite only accounting for about 7 per cent of the world's population, rural youth constituted more than 10 per cent of the world's conflict-exposed population. As conflict-affected rural youth progress through consecutive life stages, they carry forward the legacies of conflict into their adult life and old age, shaping later life outcomes.

Despite the particular role of conflict for rural youth, we find a general lack of specific evidence on how conflict affects rural youth. We hence seek to abstract from more general lessons pulled from academic and grey literature about the impact conflict has on those exposed to it, and how that might relate specifically to the endowments of rural youth. We show that exposure to violence increases infant mortality, reduces birthweights, harms child health, damages human capital accumulation, restricts performance in education and interacts negatively with labour market opportunities. We also find some evidence that these adversities can be overcome by good policy choices and programming in the post-conflict phase.

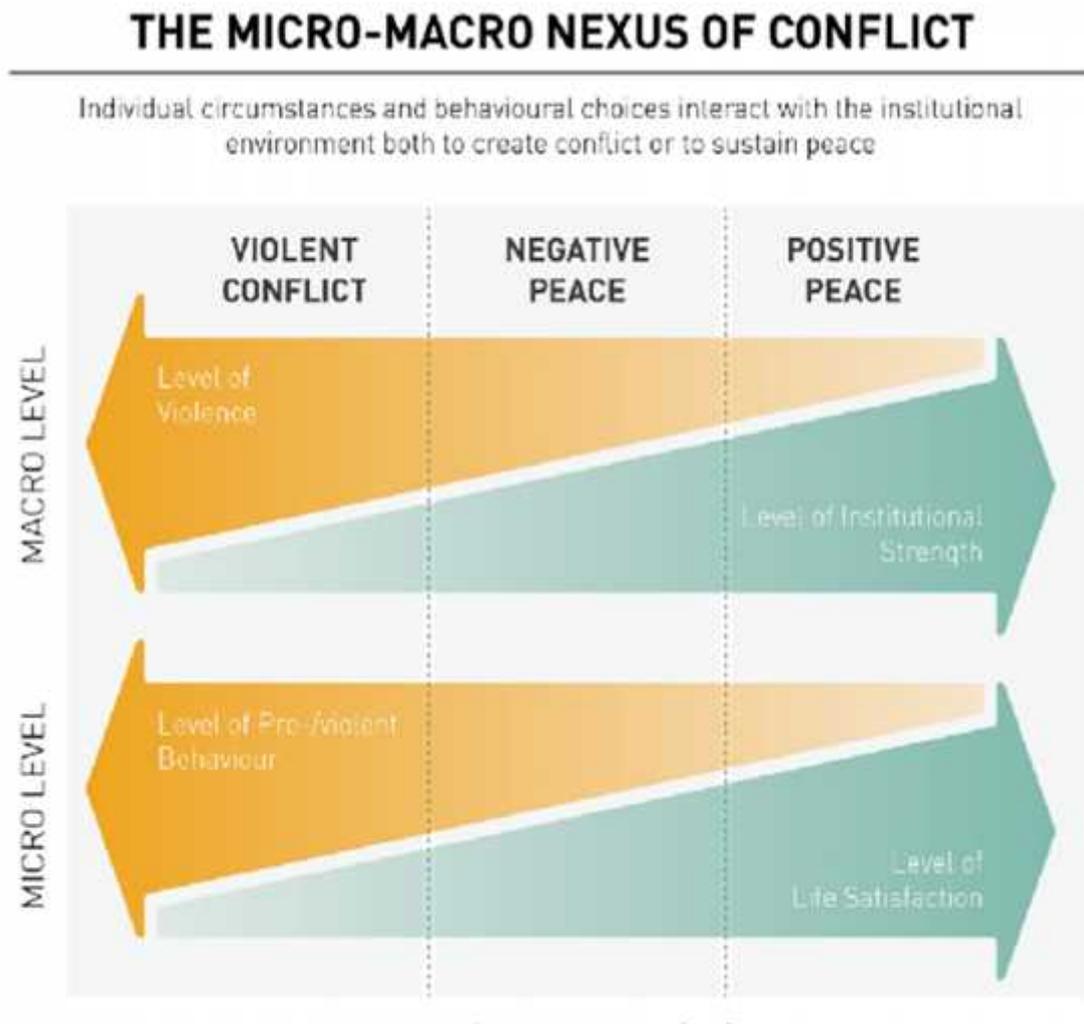
Despite this accumulated knowledge, however, we note that key knowledge gaps remain, frequently related to the internal steps that link a particular outcome with conflict as an input. In these situations, programmatic impact mechanisms often rely on theoretical considerations as they target the proposed intermediate steps through which conflict is postulated to impact on a particular outcome.

In this regard, we conclude, first, that there is an urgent need to understand how and why exposure to conflict harms the lives of rural youth and, perhaps more importantly, how conflict harms the lives of rural youth differently from those of other sociodemographic groups. Second, given that rural youth are disproportionately affected by conflict, we record a need for the design of, and learning from, programmes that are specifically targeted at protecting and empowering rural youth during the post-conflict phase.

1. Introduction

In this background paper, we look at – where possible at the individual level – how conflict and fragility affect the lives of young people in rural areas, and in turn, how rural youth might also contribute to conflict and fragility. We argue, broadly, that conflict and fragility are points on a continuum that joins well-functioning societies to so-called failed states (see figure 1).

Figure 1. The micro-macro nexus of conflict and fragility (source: Brück et al., 2016)



At one end of this continuum is violent conflict, which is the focus of much of this background paper, in part because of the relatively rich knowledge that has been developed in this field. While we also consider fragility, we note that relatively little work has focused on this part of the continuum.¹

We view violent conflict, as seen from the individual perspective, as an acute shock (e.g. at the onset of violence), a sustained shock (e.g. in long-term civil conflict scenarios) or both (e.g. an escalation of a long-term violent scenario). We view the impact at both the covariate level (i.e. where it impacts

¹ In part, this relates to a lack of agreement on the conceptualization and definition of fragility; a lack of micro-level data specifically collected to close these gaps; and a peculiar endogeneity issue: commonly, the features that define fragility are, themselves, damaged by fragility.

everyone in society, such as through damage to institutions and infrastructure) and the idiosyncratic level (i.e. where impacts vary from individual to individual and household to household, such as experiencing deaths, injuries or economic loss). In this regard, a person's age, gender, ethnicity, networks and place of residence influence both the likelihood that a person will be exposed to violence and how he or she experiences it. We take this notion as our guiding principle and seek to draw direct and indirect lessons for how conflict affects one particular subset of society: the "rural youth".

In contrast to wider debates that often view young people, particularly rural youth (or, at least, youth with low opportunities), as the perpetrators of violence (see Urdal, 2004 at the macro level; and the likes of Humphreys and Weinstein, 2007, and Gilligan et al., 2013, who describe the profiles of perpetrators of conflicts at the micro level), we also view young people as the victims of violence. Indeed, notions that rural youth are the perpetrators of violence have often dominated the debate to the extent that young people have come to perceive that their voices are often ignored in discussions around conflict.² This is particularly the case for rural youth, who are discussed directly, if at all, only in terms of being violent actors. Rather, we note that many young people, and many rural young people, even in highly violent situations, do not (voluntarily) engage in acts of violence. In turn, it is often missed that this is a group that is particularly challenged by conflict and might be in need of particular support. In short, rural youth, too, are the victims of conflict.

In this background paper, we set out to show that conflicts tend to happen in countries with a higher than average proportion of rural young people. In turn, we show that these individuals bear a significant burden from conflict, which causes not just immediate harm but harm at all life stages. From this, a cycle of harm develops that suggests an important need to revisit the narrative that young people in rural areas have agency in conflict scenarios only as a threat. In turn, there is a need to ensure that young rural people have agency as victims of conflict and, indeed, as peacebuilders.

Violent conflict acts as a serious, spatially highly correlated and politically contentious barrier that prevents youth from advancing through critical life stages, or delays their progression in doing so. Education, socialization, norm development, expectations, training, employment and family formation are severely curtailed and even prevented by political violence and insecurity. Given this, institutions and their quality matter significantly for rural youth in conflict-affected areas. Policies and programmes exist that might reduce the burden of violence or that can reduce the violence in the first place. However, the evidence base for the performance of these interventions is often weak or absent, owing in part to the difficulty of capturing key outcome variables relating to conflict.

More generally, specific evidence focusing on rural youth in the context of conflict in any way is also inconsistent and, as a group, they appear to lack a systematic empirical literature that is specific to the threats and opportunity spaces in which they live. From the evidence that is available, however, we see strong grounds to view rural youth as the victims, rather than the perpetrators, of violence. In turn, policies should focus as much on building resilience to conflict within this group as on preventing them from joining armed organizations. In turn, more evidence is needed on how to empower rural youth living in the shadow of conflict in some of the most challenged development settings in the world today.

From this, we develop the notion that there does not appear to be a single key narrative that surrounds rural youth in conflict. Conflict research exists at many levels and, often, it is not necessarily possible to see the implications at one level from research conducted at another. For example, while the link between conflict onset and poverty is well established (Collier and Hoeffler, 2004), at the individual level most poor people do not voluntarily join armed organizations. Similarly, while the link between so-called "youth bulge" and conflict is strong (Urdal, 2004), it is less obvious how age, private opportunity or both affect decisions at the individual level. By the same token, what is relevant to the choices of

² See: <https://www.unteamworks.org/youth4peace>.

individuals living in rural areas may not be the same as what is relevant in urban areas; and what is relevant to youth may not be relevant to a wider age spectrum.

In this regard, we focus this background paper around two key narratives: the first is that there is surprisingly little known, specifically, about rural youth in conflict. In turn, we attempt to generalize lessons for this group from wider knowledge bases. Second, perhaps in part because of the commonly accepted wisdom that (rural) youth are (likely) perpetrators of violence, the debates that surround their role as victims and the outcomes this implies often do not take centre stage. The aim of this background paper is to shed light on what is known, and not known, in terms of these narratives. To do so, we first contextualize who the rural youth are and how this interacts with conflict. Subsequently, we focus on the implications of conflict on a range of key life stage indicators for this group.

1.1 Who are the rural youth? Data and background

We view the best way to understand "youth" as a period of transition from childhood dependence to adult independence. In general, however, this would imply that whoever the "youth" are could be context specific and even person specific. Therefore, more specifically, we follow more general principles and define youth as individuals aged 15-24 to ensure comparability, both within our own research and between this research and other background papers. In principle, we define "rural" in terms of agricultural and commercialization potential. In reality, however, given the data sources available to us at the time of writing, we often import definitions of "rural" from root sources, in particular the World Bank and Afrobarometer. In this regard, while agricultural and commercialization potential are used as guiding principles, the use of the term "rural" in our discussion relies, at least as often, on this range of imported definitions.

Given these definitions, we seek first to understand who the rural youth in conflict are. That is, how many rural youth experience conflict; whether the experience of conflict falls more on rural or urban youth; and the proportion of all societies living in conflict that could be defined as "rural youth". To do so, we define a list of "countries in conflict", which we source from the Uppsala Conflict Data Program (UCDP)/Peace Research Institute Oslo (PRIO) Armed Conflict Database. This list includes all of the countries that, under UCDP/PRIO definitions, are currently experiencing conflict. We note, because of minimum thresholds and other definitional factors about what constitutes "conflict" in this database, that figures pulled from these data are likely to be a conservative estimate. In 2016 (the most recent year for which there are data), UCDP defined 34 countries as being at war,³ while a further six were defined as having been at war in the last five years.⁴

We match these countries at war to World Bank population estimates. These estimates include population splits by age and gender, as well as the proportion of the country that lives in areas identified as rural. From this, we therefore calculate (by gender, as well as by total) the number of individuals aged 15-24 living in rural areas in countries defined as experiencing conflict. We find that, in 2016, around 350 million rural youth lived in conflict-affected countries,⁵ of whom 179,490,288 were male. Just under 60 per cent of youth who experienced conflict in 2016 lived in rural areas,⁶ while just

³ These are Afghanistan, Algeria, Azerbaijan, Bangladesh, Cameroon, Colombia, Democratic Republic of the Congo, Egypt, Ethiopia, India, Iran, Iraq, Jordan, Kenya, Libya, Mali, Mozambique, Myanmar, Niger, Nigeria, Pakistan, Philippines, Congo, Russian Federation, Rwanda, Somalia, South Sudan, Sudan, Syria, Thailand, Turkey, Uganda, Ukraine and Yemen. Note: while this database also lists the United States as being in conflict, it is not included in our list because of an absence of violence in the territorial United States.

⁴ These countries, and the last year they experienced conflict, are Central African Republic (2013), Malaysia (2013), Israel (2014), Burundi (2015), Chad (2015) and Lebanon (2015).

⁵ In 2016, these estimates show that 347,579,040 rural youth lived in conflict-affected countries and 353,925,824 rural youth have lived in countries affected by conflict in the last five years.

⁶ Broadly speaking, this figure is quite static in time and does not change noticeably when we consider those who have experienced conflict in the last five years.

over 10 per cent of all individuals who experience conflict are rural youth. Taken in context, this suggests that, around the world, almost one third of the world's rural youth experienced conflict in 2016, and that the burden of conflict falls more on rural youth than on their urban counterparts. Moreover, given estimates that about 16 per cent of the world's population are "youth" (Lai, 2016) and that about 45 per cent of the world's population lives in rural areas (World Bank, 2016) and, thus, that about 7.2 per cent of the world's population is "rural youth", we see that rural youth are disproportionately affected by conflict. Moreover, we see that rural youth are more affected than non-rural youth, accounting for 60 per cent of all youth exposed to conflict.

Taken in isolation, and in context, the size of these numbers shows the importance of research that understands how rural youth experience conflict, how they are affected by it and how they might be active participants in it.

1.2 Rural youth and conflict in the context of transformation

In this subsection, we discuss the links between conflict and the wider framing of the Rural Development Report on Transformation.

In the first instance, we note that (rural) transformations, given the deep nature of the changes they imply, may be triggers of conflict. Following standard definitions of rural transformation, one can pick out a wide range and large number of trends and drivers. While many of these can readily be viewed as opportunities, that need not always be the case. For example, while one might expect some modernization of agricultural processes, it may also be associated with other pressures. Populations might grow; threats might stem from climate change and resource degradation; urbanization might result, as might migration. In a number of these cases, some of these pressures have been strongly linked to conflict. Climate, for example, and climate shocks in particular appear to be a robust driver of the onset of conflict (Hsiang et al., 2013; Burke et al., 2013; O'Laughlin et al., 2012; Tol and Wagner, 2010), as do changes in resource allocations (Homer-Dixon, 1994). Migration, especially forced displacement, can be viewed as both a cause of and a consequence of violence, with movements leading to demographic and economic pressures in destination countries (Raleigh et al., 2008; Ware, 2005). Indeed, in certain situations, climate change itself can be a cause of migration-based violence (e.g. Reuveny, 2007). It is, therefore, important to note the relationship between both the opportunities and the pressures associated with rural transformation and conflict.

Second, we argue that conflict itself is transformational. On the one hand, this implies that conflict can lead to some of the kinds of transformations we consider above. While migration is an obvious contender (Melander and Öberg, 2004; Davenport et al., 2003; Moore and Shellman, 2002; Schmeidl, 1995), demographics are almost certainly affected by conflict (Raleigh and Urdal, 2007; Goldstone, 2002), as are economic and other forms of decision-making (e.g. Brück et al., 2013). In this regard, conflict can bring about many of the changes – and in particular many of the pressures – that have been linked with rural transformation.

Finally, we note that conflict is a cross-cutting issue that interacts with many of the other background papers that will support the Rural Development Report. We discuss these cross-cutting impacts in detail in the rest of this article.

1.3 Conceptual background and approach

In this background paper, we review the status quo of knowledge, and knowledge gaps, of the impact of conflict, and by extension fragility and complex humanitarian emergencies, on human development indicators relevant to rural youth. We note that the types of conflict that individuals experience are likely to be related to whether one lives in urban or rural areas. In particular, in rural areas, violence

may be more linked to land disputes and access to resources than to intercommunal tensions. This relates to a wider concept that exposure to different types of violence can lead to differences in how individuals respond to that conflict (e.g. Rockmore et al., 2016). In contrast to this concern, however, we note that there exists relatively little systematic research on rural-specific conflicts, or on how conflicts might uniquely affect rural youth. Therefore, we focus more widely on conflict and consider how that might relate to rural areas.

To this end, we propose a "life stages" model that looks at various age bands that, even if not specifically covered in our definition of "youth", are relevant to people within these ages. For example, the position of an individual at 20 years of age probably relates as much to what has happened at all stages in his or her life before that age as it does to what has happened at 20. This builds on the long-standing understanding that traumas and other childhood experiences can have important impacts on personal and cognitive development and associated life outcomes. At the individual level, this implies that individuals worst exposed to conflict and violence suffer disproportionately from conflict; at a more aggregate level, entire cohorts suffer compared with others, with associated impacts on the macroeconomy.

In this regard, we define six life stages of relevance: the prenatal stage; the early-life stage; the education stage; the transition to work stage; the employment stage; and the family formation stage. Although we discuss these stages in silos, we do so only for expositional ease. We do not imply that transition from one stage to another is linear, or that they do not overlap. We present this approach in table 1, along with the specific outcomes that are of greatest interest at each life stage.

Table 1. Life stage and event combinations and life outcomes of interest

Life stage	Conflict fragility
Prenatal	Maternal health Birthweight Survival probability
Early-life	Childhood health Nutrition status Excess child mortality
Primary school	Education enrolment Education completion Education performance
Secondary school	
Transition to work	Aspirations Skills accumulation Labour demand
Employment	Employment status (Household) income
Family formation	Marriage age Marriage markets Fertility decisions

1.4 Scope and disclaimer

The purpose of this background paper is to act as an introduction to the status quo of knowledge, and, by extension, the knowledge gaps, of the impact of conflict and fragility on rural youth, and, through the use of data, to highlight some of these relationships. In effect, this document is therefore presented as a "primer" on these issues, rather than a complete and comprehensive review of all current related literature. Similarly, while we will use data to highlight some of the key concerns we raise, these are not intended to be considered causal identification of key relationships but, rather, to understand the comparative impact of conflict exposure on rural youth, compared with other societal groups.

In this regard, we outline existing evidence on how rural youth might experience conflict and fragility as "victims" and, briefly, on how they might contribute to violence. In turn, we provide a snapshot of how the life development of young people can be influenced by these experiences, in terms of behaviour (e.g. choices in the labour market) and welfare (e.g. in terms of poverty and food security). Through this research, we aim to paint an understanding of how rural youth might be, uniquely, affected by various types of conflict, and how current knowledge gaps can be closed.

To do so, we draw on a range of academic and grey literature, in order to substantiate our key points; we then draw on some of these key relationships and link data from the Armed Conflict Location Event Dataset (ACLED) geo-coded database of various conflict datasets and understand how they interact with the rural opportunity space. Specifically, we interest ourselves in where conflict happens, the population densities there (as a proxy for the rural/urban split) and night light (which, when we control for population, acts as a proxy for economic activity).

2. The interaction of conflict, violence, fragility and rural opportunity

In this section, we look at how conflict, violence and other manifestations of fragility affect rural youth and how they interact with the space in which rural youth live. To do so, we compile spatially disaggregated data on the timing and location of various manifestations of social instability from ACLED (Raleigh et al., 2010). ACLED data cover all of sub-Saharan Africa (SSA) and collect spatio-temporal data on remote violence, battles, violence against civilians and riots/protests.

Insofar as the data allow, we map the locations of each of these forms of violence onto the "rural opportunity space" proposed in the framing elements for the report, which we proxy via population density and night-time luminosity (where we control for population). This follows the notion that, if two places have the same population, higher night light in one location is probably a proxy for higher economic activity and/or potential, reflecting a higher commercialization potential.

Data on conflict are obtained from ACLED, which is available for Africa since 1997 and is updated monthly. The data contain geo-referenced information on various forms of conflict incidence, including protests and riots, violence against civilians, remote violence and battles. For the purpose of this study, we use observations with high geographic precision (i.e. only at the level of villages, towns or cities and their outskirts) for a period of three years, from the beginning of January 2015 until the end of December 2017.

In addition to conflict event data from ACLED, we use 2015 spatial population data from Worldpop (www.worldpop.org; Africa population count data, Linard et al., 2012; Africa age-structure data, Tatem et al., 2013), as well as the latest monthly average of the night-time lights from the Visible Infrared Imaging Radiometer Suite (VIIRS; Murphy et al., 2006). Both the population data and the VIIRS data are available at very high resolutions (about 1 km). The population data can also be disaggregated by age group and gender.

In order to spatially match the conflict event data with the high-resolution population and night-time light data, we generate a political geographic square grid for the whole of Africa, with a side length of 150 km. In total, the African continent is represented by 1,359 grid cells. Border areas that do not fill more than 50 per cent of the cell area are not included. This is evident in the exclusion of the Comoros Islands and parts of the Horn of Africa from the final gridded dataset. The exclusion of these areas is performed to ensure the uniformity of the cell sizes.

The apparently arbitrary choice of the cell size at this stage is based on a number of analytical and practical factors. In the first instance, population and conflict event data tend to be highly spatially autocorrelated. This implies that neighbouring grid cells at the highest resolution levels by design contain clustered observations. High spatial autocorrelation can lead to measurement errors. The selected size ensures a meaningful visual graphical representation of the data and reduces compilation errors compared with higher levels of precision. Furthermore, by construction, the ACLED dataset captures event data at the village, town and city levels. The data-coding process selects the coordinates of the centroids of the polygons representing these administrative areas. Hence, without prior knowledge of the village or city sizes, it is problematic to disaggregate these units to very high-precision grids.⁷

In order to measure the intensity of conflict, we count the number of conflict events falling within each grid cell broken down by our four main conflict categories, which are represented spatially in the maps of figure 2. Battles include skirmishes between armed actors with or without change of territory. Violence against civilians is violent incidents reported to be deliberately targeting civilians. Remote violence includes incidents such as aerial bombardment and remote shelling of a specific location without a clear target, while riots and protests include any reported violent and non-violent demonstrations that took place in the specified period. We present all our maps with legends of the quantiles to ensure comparison across conflict types without falling back on the actual number of incidents. In other words, these figures show the relative intensity of each form of violence.

As expected, all types of conflict events are concentrated in urban densely populated areas of the African continent. Yet there is also evident spatial variation between them. Most remote violence and battles between 2015 and 2017 took place mainly in the Horn of Africa, South Sudan and northern Nigeria, which matches priors. Protests and violence against civilians are much more widespread across the whole continent.

The three maps in figure 3 shows a similar representation of the grid cell spatial system for population, share of the population who are youth and night-time light. In addition, we add a point layer of the sum of all types of conflict events in our time period. One can see that there is a clear spatial relationship between population density and night luminosity on one hand, and conflict events on the other hand, which comes as no surprise. However, this relationship becomes less evident for the share of youth.

⁷ From our experience, it would be possible to reduce the grid sizes to about a side length of 50 km without jeopardizing the accuracy and quality of the ACLED data but this requires highly specialized levels of computing power.

Figure 2. Distribution of conflict events in Africa 2015-2017

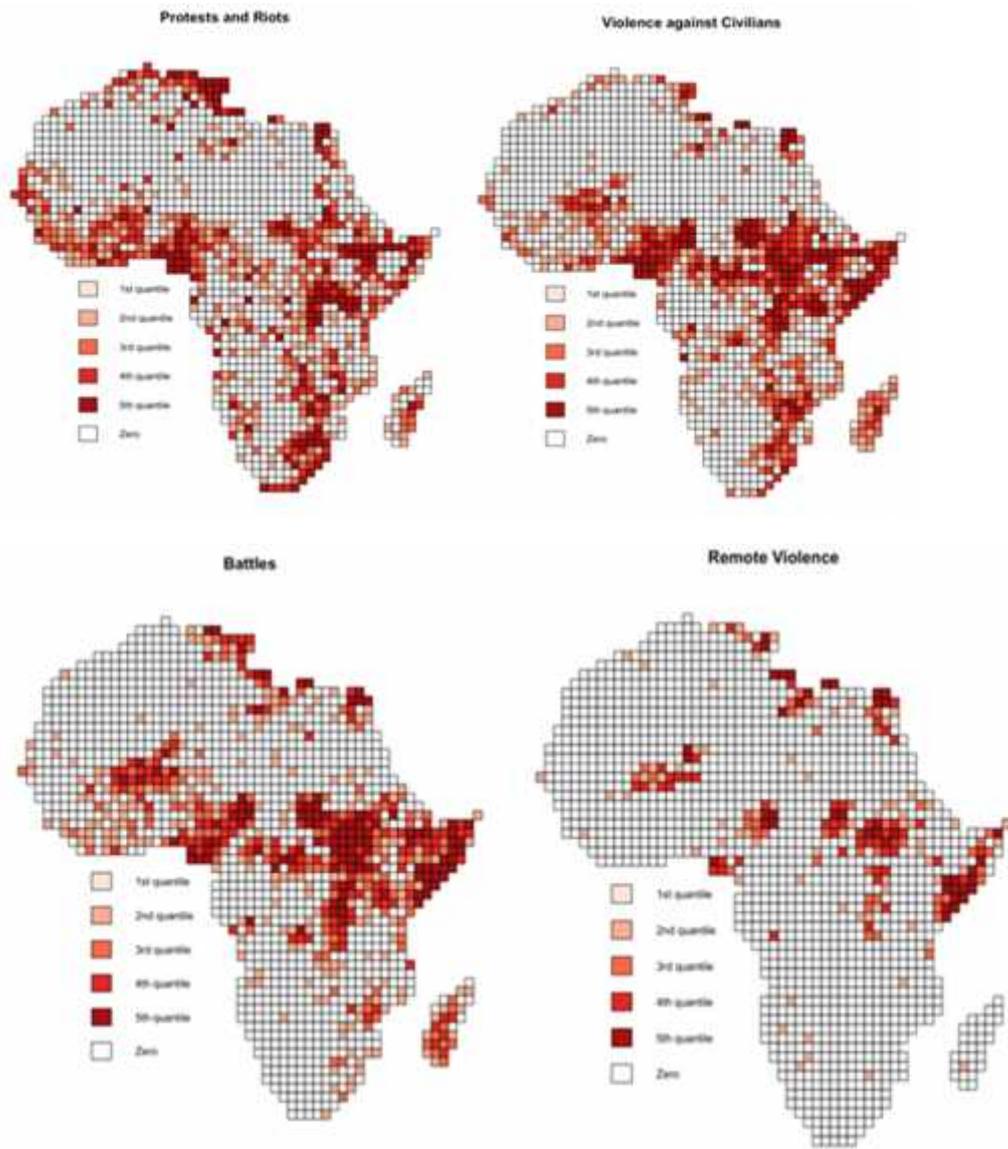
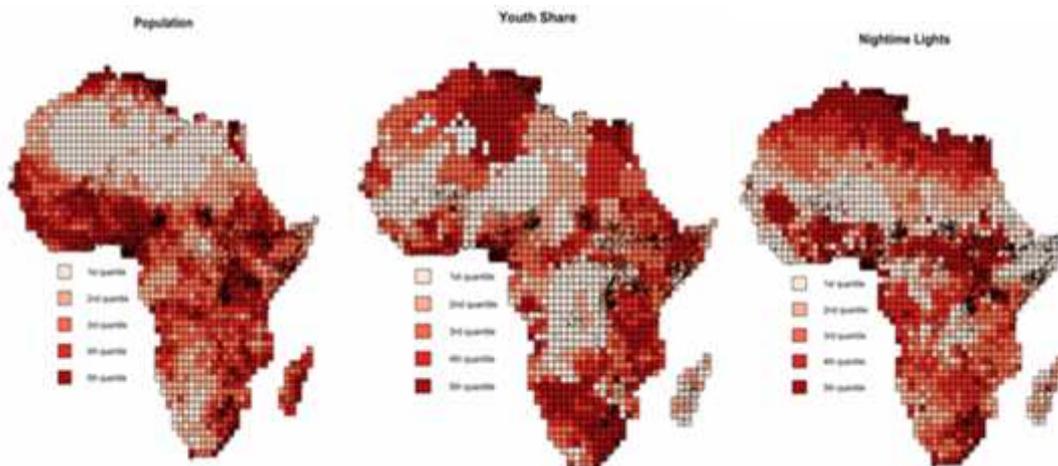


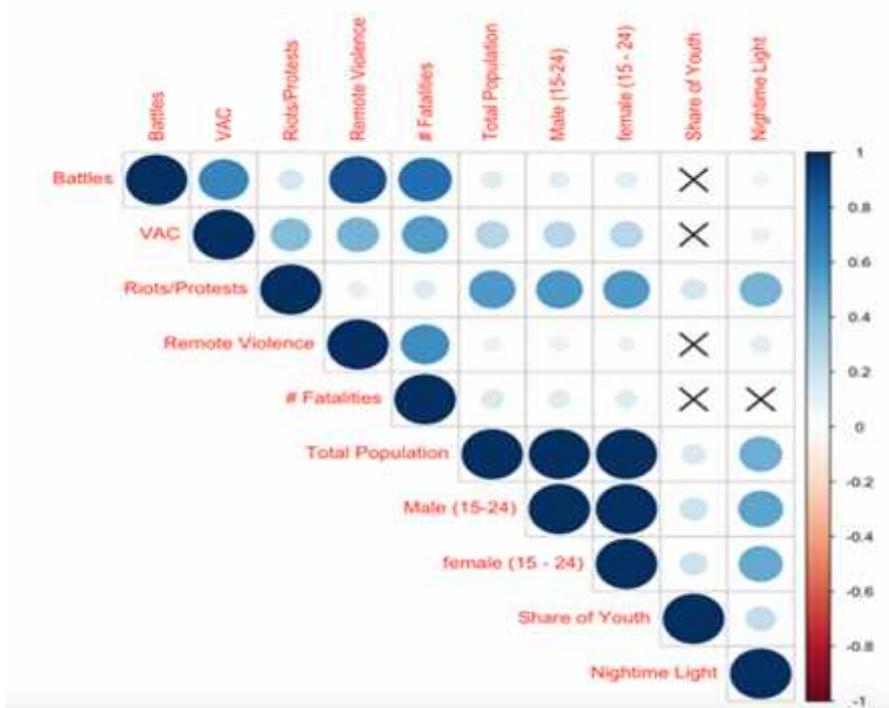
Figure 3. Spatial relationship between conflict and population densities



Finally, we interest ourselves in how different types of conflict interact with population spread and, in particular, the youth population. The correlogram in figure 4 shows all the Spearman correlations of the conflict variables of interest, as well as the total number of female and male youth, and the share of youth in the total population.

There are three interesting trends shown in figure 4. First, the correlation between night-time lights and population densities is strong. This simply reflects the fact that most of the high population densities are concentrated in urban areas. In other words, the lower the night-time radiation emissions, the less urbanized the geographical area under study. Given the difficulty in obtaining independent spatial distributions or estimates of rural and urban proportions of the grid cells, we can only rely on the population densities and the night-time lights as indirect proxies.

Figure 4. Correlogram at the spatial grid level



Second, we find a relatively strong relationship between protests/riots and youth population densities, as well as the more expected relationship with night-time luminosity. This implies that protests are more likely to take place in dense and urban areas and that they are also much more likely to involve young people. We find no strong correlation between these variables and battles or remote violence.

Third, violence against civilians is also correlated with young population but less so with night-time lights. This suggests that there is a more complex interaction between violence against civilians and population densities in the urban/rural divide.

To further test these relationships, we a run simple linear regression focusing on two outcome variables: violence against civilians and protests/riots. Table 2 presents the findings for a selection of models.

Table 2. The conditional correlation between extent of violence and commercialization and economic potential

	(1)	(2)	(3)	(4)	(5)
A. Violence against civilians					
(Intercept)	7.59*** (1.12)	2.57* (1.17)	-4.57 (7.89)	2.50* (1.16)	0.46 (8.04)
Night-time light	0.99*** (0.28)			-0.73* (0.31)	0.91** (0.30)
Population (100k)		0.76*** (0.06)		0.84*** (0.07)	
Youth share			0.71 (0.42)		0.40 (0.43)
Observations	1,539	1,539	1,491	1,539	1,491
R-squared	0.01	0.08	0.00	0.09	0.01
B. Protests and riots					
(Intercept)	6.01*** (0.90)	-0.64* (0.91)	-36.91*** (7.05)	-0.38 (0.88)	-11.73 (6.46)
Night-time light	4.72*** (0.23)			2.56*** (0.23)	4.55** (0.30)
Population (100k)		1.34*** (0.05)		1.05*** (0.06)	
Youth share			2.53 (0.38)		0.97** (0.25)
Observations	1,539	1,539	1,491	1,539	1,491
R-squared	0.22	0.32	0.03	0.37	0.22

***, $p < 0.01$; **, $p < 0.05$; *, $p < 0.1$.

Broadly speaking, these analyses allow us to test for conditional correlations between the key variables. That is, for example, while night-time luminosity and population density are highly correlated with each other and with urban/rural boundaries, they may capture slightly different things. For example, in two places with the same population, a lower level of night-time luminosity might reveal a lower level of economic activity and reflect weaker structural transformation. In this regard, running

analyses on such conditional correlations allows us to proxy both agricultural potential and commercialization in a way that the simple correlations above cannot.

In section A of table 2, we see no evidence of a relationship between the youth share of the population and violence against civilians. Perhaps unexpectedly, we see a significant and positive relationship between population and violence against civilians. This is almost entirely intuitive, however. Thought of in extremes, if the population is zero, there are no civilians to be victims of violence and none to perpetrate it. Of greater interest, however, is that, once we control for population, we see a negative relationship between night-time luminosity and violence against civilians. In turn, this suggests that violence against civilians takes place in the places with the lowest commercialization potential, other things considered.⁸

In section B, we repeat these analyses, to understand the relationship between protests/riots and our range of demographic and economic inputs. Here, we see some (although not incontrovertible) evidence that riots correlate strongly with youth populations. In other words, riots are more likely to affect – and perhaps involve – young people. Beyond this, we once again see a strong positive correlation between population and the onset of riots, which follows a similar logic to that above, to a certain degree. This suggests that riots are more likely to affect urban youth. Finally, the impact of night-time luminosity is positive in all specifications of the model, suggesting that riots occur in places with greater economic activity and, thus, that might have higher commercialization potential, or that are more structurally transformed.

In this regard, we draw a number of general conclusions, which suggest that rural youth experience a different range of threats from urban youth. In particular, "traditional" forms of armed conflict tend to affect youth more in places with less commercialization potential, although this does not hold for less direct forms of violence, such as rioting. We discuss the potential outcomes of these threats in the next section.

3. The life stages approach

In this section, we discuss the impacts of conflict on six key "life stages" that are linked to the life outcomes of youth and young people more generally (see Calderon-Mejia and Cantu, 2017, for a similar approach). Although some of these life stages take place in early life, exposure to shocks at these ages has been shown to carry through life. This builds on the well-established notion that the foundation for later life success is in childhood. Therefore, we focus on a range of stages that stretch from conception until that same child typically considers conceiving his or her own child. In this regard, we cover all life stages up until what we might consider the "end of youth", on the understanding that all life stages before this influence the kind of "youth" an individual can expect to have (or, indeed, can expect to be). Within each stage, we focus on a relatively small number of outcomes that are of most interest in illustrating the wider concerns. We discuss each below, with a focus on five main concerns: the status quo of current knowledge; gender perspectives within the status quo; knowledge gaps that stem from the status quo; implications for and from programming; and conclusions, discussions and reflections.

⁸ We currently lack an indicator to perform similar analyses on agricultural potential.

3.1 The prenatal stage

Before we consider the prenatal stage specifically, we make passing reference to the “pre-conception” phase. Although we revisit this in more depth later, it is worth reflecting at this point that conflicts can induce changes in fertility decisions. Who becomes pregnant during episodes of violence and who gives birth during them may change. In general, the relationship between these fertility decisions and later life outcomes is poorly understood (in part because of the complex methodological problems it poses), yet it remains important, as it implies both direct and indirect impacts on life outcomes.

Beyond this reflection, which we return to in the final of our life stages, we define three major outcomes of interest during the prenatal stage: maternal (physical and mental) health, birthweight and child survival probability.

There are plenty of reasons to believe that conflict has negative repercussions on the health of those exposed to it (Bundervoet et al., 2009; Guha-Sapir and D’Aoust, 2011). There are also good reasons to believe that a strong and adverse relationship exists between maternal health (and maternal stress in particular) and a child’s birthweight (Duque, 2017) and between birthweight and later life outcomes (Alderman et al., 2006; Currie and Almond, 2011; Hack et al., 2002; Black et al., 2008; Currie and Vogl, 2013). In turn, this implies that maternal exposure to conflict will influence a child’s outcomes at birth, which in turn can affect a child’s outcomes at all subsequent life stages, and that stress is a likely driver of such outcomes (Camacho, 2008).

The relationship between conflict and food (in)security is well established (Messer and Cohen, 2007; Hendrix and Brinkman, 2013), as are the link between poor food security and birthweight (Nabarro, 2013) and that between low birthweight and later life outcomes. It follows that in utero exposure to conflict, via increased food insecurity for mothers, adversely impacts later life outcomes through the relationship running from conflict to food security to birthweight and fetal development (Kudo, 2016; Mansour and Rees, 2012; O’Hare and Southall, 2007). Broadly speaking, within this literature, there is little effort to differentiate impacts on boys and girls, in part because theories are gender neutral and, linked to that, because in conflict situations women may not know the gender of an unborn child and cannot differentiate action on those grounds.

So far, we have focused on adverse outcomes of the children who survive until birth in conflict scenarios. Another concern is the impact of conflict on foetal loss. Seminal work stretching as far back as the 1970s shows that prenatal shocks induce the probability of foetal loss and, indeed, that they may affect the genders differently (Trivers and Willard, 1973). More recent work has suggested that conflict and violence are linked to the kinds of shocks that can increase the risk of foetal loss and that there are, indeed, gender aspects to such losses (Valente, 2015). In this regard, conflict affects the probability of miscarriage in women, generally, but also has knock-on gendered effects. The wider impacts of conflict-induced foetal loss, however, remain broadly unstudied.

More generally, in this literature a range of theories compete to explain the relationships at play. Often, they involve multiple steps which, themselves, have not been independently established in the context of conflict. Consequently, optimal design of interventions to mitigate the impacts of in utero conflict exposure may be based on multi-step theories that are not (fully) backed up by context-specific empirical support. In particular, studies often go from a conflict-related input to child birthweight outcomes, rather than separately establishing the impact of conflict on maternal health, or household access to food, and the subsequent relationship between health/access and a child’s birthweight. In turn, the design of programmes is, implicitly, theoretical as they work through these intermediate steps.

Despite this, however, a relatively substantial literature (e.g. Higgins et al., 1989; Bhutta et al., 2005; Fink et al., 1992) has shown that various types of nutritional interventions have been shown to boost

birthweight, although questions surround the performance of nutritional programmes in complex environments (Brück et al., 2018).

Similarly, a small literature has developed particularly around the influence of "mindfulness" on reducing maternal stress during pregnancy (e.g. Dunn et al. 2012; Vieten and Astin, 2008), although this has more often focused on the levels of stress experienced by expectant mothers, rather than birth outcomes, which are of more interest in this context. In turn, two questions arise. The first, again, is about the usefulness of such approaches in the complex environments in which stress is induced by conflict, massacres or other forms of violence. In this regard, we note (with no small degree of abstraction) that other psycho-social support programmes have proven useful in influencing behaviour in violent and pre-violent settings (e.g. Blattman et al., 2017; Heller et al., 2017). The second concern is that, to our knowledge, the effects of such programmes on birthweights have not yet been studied. In combination, while there are some lessons that can be drawn from programming, key knowledge gaps remain.

3.2 The early-life stage

Broadly speaking, the outcomes of interest in the early-life stage align with those in those in the prenatal phase, with interests in (excess) child mortality and poor child nutritional outcomes. In this regard, we first seek to clarify the purpose of this subsection. In contrast to the information above, where we discuss the effects of children who are born to mothers who have been exposed to conflict, in this subsection we discuss the consequences of exposure of children in early childhood. Thus, while many of the effects appear to be the same, the mechanisms at play are substantively different.

We build this section, again, from a similar set of theories to those discussed above. First, therefore, we build on the established links between conflict and food security and on the consequent fact that some of the worst (long-term) effects of malnutrition occur during the first two years of life (Nabarro, 2013). In this period, impacts on health, brain development, trainability and productivity are not just more severe but are seen as largely irreversible (Black et al., 2008). In this regard, the impact of conflict on food insecurity has the further adverse impact of increasing severe forms of malnutrition in young children, which in turn can have permanent and adverse developmental impacts. In Nigeria, conflict has been shown to have strong impacts on child height – a key indicator of nutrition status – during their early life (Akresh et al., 2012). Impacts on child health, too, frequently arise but go well beyond the direct effects one might expect from conflict (i.e. death, injury and other outcomes that are direct consequences of violence) (see, for example, O'Hare and Southall, 2007).

In this regard, we treat excess childhood mortality as an extreme outcome of wider adverse health impacts and, therefore, conduct the discussion with respect to this outcome, noting that, if conflict drives such extreme outcomes, it can also drive less extreme adverse health outcomes. The links between conflict and (excess) child mortality are, in fact, covered in great depth in the literature (Ali, 2014; Dagnelie et al., 2014; Verwimp, 2012; Verwimp and van Bavel, 2004; Kiros and Hogan, 2001; Lindskog, 2016; Singh et al., 2005; Guha-Sapir and van Panhuis, 2004). A number of potential mechanisms are, however, posited to explain this relationship, including malnutrition, food insecurity; access to water, sanitation and hygiene; access to healthcare facilities and medicine; changes to intra-household decision making; and forced migration and other forms of displacement. While information on the headline relationship is strong, therefore, the pathways are less well defined, especially as different types of conflict appear to have different impacts (Ali, 2014) and that there appear to be gendered aspects of the effects (Dagnelie et al., 2014), which it is argued relate to higher vulnerability of boys in utero.

From a programmatic perspective, there is a short but relatively comprehensive literature on the successful performance of interventions in reducing early-life malnutrition (WFP, 2013; 2016).

Questions still arise about their performance in places where conflict may induce migration or other adversities that interact with the programmes' theories of change (Brück et al., 2018). Similarly, a wide range of interventions have been shown to be successful in the reduction of infant mortality (Hollowell et al., 2011; Makinto et al., 2006). There has been a tendency to focus on state-level reforms and/or wider development trends (e.g. Claeson et al., 2000) that are likely to be undermined or to be entirely unavailable in conflict-affected societies. By contrast, medical interventions, such as prescription of vitamin A in Nepal, may be more realistic in conflict-affected scenarios (e.g. West et al., 1991) but uptake issues are still likely to be prevalent (Young et al., 2004). In this regard, knowledge gaps remain prevalent, particularly in how to combat malnutrition and infant mortality in conflict scenarios.

3.3 The education stage

Both primary and secondary education are key means to develop productive and life skills of young people in rural areas and elsewhere. Indeed, such a long line of literature establishes the relationship between accumulation of education and life outcomes (e.g. Blanden and Gregg, 2004) that it barely seems worth dwelling on the fact. What is clear, however, is that human capital accumulation is an important component in the transition from youth to adulthood. In turn, options and life trajectories beyond the youth phase are strongly co-determined by schooling and education.

However, conflict and fragility often impact in significant ways on both the quality and quantity of education that is provided and, perhaps more importantly, that is demanded. In this regard, even primary education is of key importance for conflict-affected rural youth, as it is likely that many youth in war zones have not attended or completed primary school and, consequently, are effectively excluded from secondary education.

A deep literature, covering multiple case studies, has developed that links the effects of violent conflict to education, specifically at the primary school level and, therein, particularly on enrolment in schools, and in terms of attendance and attainment (a short list of examples includes Akresh and de Walque, 2008; Barrera and Ibáñez, 2004; Chamraborty and Morán, 2011; Rodríguez and Sánchez-Torres, 2012; and a review by Justino, 2010); however, some literature also suggests that it is more likely that it affects only secondary education (Swee, 2009), as temporary primary schools can be set up on a more ad hoc basis and require less specific teacher skills than secondary schools. The impact on secondary education, therefore, has also become established (Brück et al., 2014; Shemyakina, 2010; 2011), and further recent evidence suggests that there may be gender effects within this, with girls more likely to exit education than boys (United Nations, 2017a).

Despite this body of evidence, however, key knowledge gaps still remain. Key among these is that most literature does not, and often cannot, disentangle the supply-side impacts, such as physical damage to schools and the loss of (good) teachers, from demand-side impacts, such as expectations stemming from returns to investment. In the few articles that attempt to bridge this gap, results are often contrary to expectations. For example, de Groot and Göksel (2011) show that demand for education increases as a consequence of terrorism in the Basque country. The mechanisms of impact are also not strongly understood and may differ for boys and girls, across different conflict types and for different ethnic or demographic groups. Specifically, this suggests that effects might be different for individuals in urban and rural areas; that the nature of effects may be different (e.g. in terms of access versus anticipated returns); and, in turn, that policy prescriptions may also need to differ.

Redeveloping education and education systems in conflict and post-conflict scenarios is important for multiple reasons. First, it has been mooted as a way to break down the legacy of conflict itself (McGlynn et al., 2009; Hilker, 2011); second, poor education may also be an input into conflict onset (Urdal, 2004; Østby et al., 2009; Stewart, 2011); and, finally, even multiple years after a conflict, education appears to be worse in affected areas (e.g. Ferguson and Michaelsen, 2015). While efforts

have been made to understand how this can be achieved, there is a tendency to focus at a system level (e.g. Luzincourt and Gulbrandson, 2010; Sinclair, 2002; Davies, 2003). While this may deal with the supply-side concerns, however, some demand-side concerns might remain unanswered, including how individuals form expectations about the value of education; and how the wider economy supports, or demands, the skills that can be drawn from a given system. Similarly, such system approaches do not necessarily address the gender inequality inherent in how conflict influences education and human capital accumulation.

3.4 The transition to employment stage

This subsection focuses on the period between school and work. In effect, therefore, what we refer to is the concept of idleness – that is, a period in which a young person is neither in education/training nor employed (e.g. Landale et al., 1998). Idleness is important, as it is not just a potential consequence of conflict but also has been linked to its onset (Bricker and Foley, 2013), particularly via concepts such as "youth bulge" (Urdal, 2004).

In particular, we focus on two areas linked to idleness: the "aspiration gap" (see, for example, World Bank, 2013) – that is, the difference between the jobs individuals would like and those an economy demands and/or provides – and the skills gap (Capelli, 2012) – that is, the gap between the skills one possesses and those that one needs to perform successfully in the labour market. On the one hand, conflict is known to lead to the destruction of physical capital (e.g. Fearon, 1995), reductions in investment (e.g. Fielding, 2004; Bussmann, 2010), damage to entrepreneurship (Brück et al., 2013), etc. In combination, this creates a situation where young people transitioning from education to the labour market face additional difficulties, anyway. In turn, the economy in question may not demand the skills that these young people have accumulated. On the labour demand side, there are adverse impacts on the macroeconomy, as well as damage to productive activities and sectors (Blattman and Miguel, 2010). On the supply side, conflict also impacts on human capital accumulation, as discussed in the previous subsection. These impacts may be a lack of human capital accumulation in any guise, but may also include the accumulation of skills that the economy does not demand. In combination, this fosters an environment for unmet expectations as the skills individuals hold are absent, or are insufficient to meet the demands of the labour market – or, at least, to meet individual expectations of what constitutes a "good job". In turn, individuals may desire jobs that are not produced in the economy, as a consequence of the violence (World Bank, 2013).

Put another way, conflict may damage both the quality and quantity of jobs available; and individuals' capacity to efficiently do those that are. This is of particular relevance in rural areas, where the opportunity space may be smaller, or at least narrower, than in urban areas (Leavy and Hossain, 2014; Asciiutti et al., 2016). In turn, it is important to know what, if anything, can mitigate the labour market damage associated with conflict. On the one hand, multiple studies have provided solid evidence of developing sustainable livelihoods in post-conflict settings (Peeters, 2009), and of stimulating individual opportunity in the aftermath of conflict (Blattman and Annan 2011), as well as a wider understanding of what can be achieved in post-war reconstruction periods (Bozzoli and Brück, 2009). In these approaches are some stories of hope that programming can boost livelihoods after severe episodes of violence. On the other hand, however, what might mitigate the damage arising in the first place, and how that affects urban and rural populations, or men and women, differently, is an open question.

3.5 The employment stage

In many ways, the underpinning concerns in this subsection are very similar to those of the transition to employment stage but aim to focus more specifically on the jobs market damage that stems directly from conflict, rather than the indirect outcomes of skills mismatches. Put another way, while the last

subsection, at least in part, focused on individual opportunity in a given labour market, this subsection aims to look more directly at how the labour market evolves during conflict. Put yet another way, our interest here is in aggregate change in the labour market. As above, there are strong links between (youth) unemployment and conflict onset, suggesting that unemployment and underemployment (Blattman and Ralston, 2015) may be drivers of violence, although the evidence for such a straightforward relationship is not, itself, very straightforward (Dowd, 2017).

Broadly speaking, we therefore interest ourselves in how conflict can affect the wider macroeconomy, and the implications this might have for the labour market during and after the conflict. The link between economic growth and employment, both where employment drives growth and where growth drives employment, is well established (e.g. Solow, 1956); thus, the impact of adverse shocks to GDP on employment and other labour market outcomes barely requires justification. At its very base, conflict is argued to be costly. Fearon (1995), for example, notes that, because of the damage to productive resources, conflict is almost strictly irrational from a pure economic point of view. In turn, the impact of conflict on growth and GDP is, almost naturally, bound to be negative (Rodrik, 1999). Indeed, the very fact that conflict damages economic growth and GDP has proven to be a major confounding issue for seminal work that studies what causes conflict onset (e.g. Miguel et al., 2004; Bergholt and Lujala, 2012).

It is, therefore, unsurprising that conflict has been shown to have major negative impacts on GDP and economic growth (Abadie and Gardeazabal, 2003; Dorsett, 2013). In turn, via the relationship between growth and employment, it is also easy to believe that conflict reduces the amount, as well as the type (see previous subsection), of opportunity available within a given labour market. Of particular concern for rural youth are the sectoral interactions between conflict and opportunity. For example, a wide range of work suggests that violence plays a particular role in certain sectors (a body of work, for example, considers tourism: Mansfield, 1994; Tarlow, 2006; Enders et al., 1992). In the case of rural youth, the relationship between conflict and the agricultural sector is of particular interest. On the one hand, it is reasonably well established that agriculture plays an important role in cultivating peace (De Soysa et al., 1999). In addition to harming food production (Duffett, 2016) and, by extension, returns to agricultural opportunity, conflict has other specific consequences for this sector. Conflict-related displacement in Colombia often involved individuals being expropriated from rural economies (Schultz et al., 2014; Oslender, 2016), while conflicts regarding land are particularly common in rural/agricultural areas (Derman et al., 2007; McDougal and Almquist, 2014). Indeed, damage in these sectors often extends into the post-conflict period (McDougal and Caruso, 2016). More generally, there are some good reasons to believe that conflict influences the labour market participation of men and women differently (see, for example, Lehrer, 2008).

From a policy perspective, the so-called "convergence" literature has suggested that, in the post-war period, growth of a conflict-affected country converges, quickly, with its long-run growth path (Baumol, 1986). This assumption is, however, often disputed outside the context of the Second World War and pays little attention to any effects on the sectoral composition of the economy in the post-war period. At the more micro level, McDougal and Almquist (2014) suggest that collective organization, such as the formation of cooperatives, does not necessarily reduce experience of land conflicts. Brück and Schindler (2009), alternatively, show major inequalities in terms of land access in post-war Mozambique. In turn, this may be suggestive of key policy gaps in how to deal with aggregate and sectoral experience of conflict, and how to support equitable post-conflict solutions.

3.6 The family formation stage

In the prenatal stage, we mentioned in passing the potential relationship between exposure to conflict and fertility decisions. Here, we revisit this notion in depth. Specifically, we are interested in three important outcomes: first, the impact of conflict on the age at which individuals marry; second, more

generally the impact of conflict on marriage markets; and finally, the relationship between conflict and fertility decisions.

Evidence on the relationship between conflict and age at marriage is rather mixed and probably relates to the nature of the conflict itself and the demographic effects that it has. In Nepal, for example, women worst exposed to conflict are more likely to marry earlier (Valente, 2016), while work in Tajikistan reduces entry into the marriage market for women of "marriageable age" (Shemyakina, 2011). In Rwanda, women exposed to the genocide marry later than those in less exposed areas. In part, this sheds light on precisely how the nature of conflict might be important. In the case of excess male mortality, such as in the areas worst affected by the genocide in Rwanda, impacts have also been found on age differences in relationships (Jayaraman et al., 2009). Impacts on age and gender structures, more widely, are likely to play important roles and it is, therefore, important to study and understand the demographic effects of conflict before considering its role in marriage markets.

In terms of fertility decisions, however, other impacts come to the fore. In Rwanda, women in the worst affected places tend to have children earlier; there is a negative impact on the replacement rate in the short term; but it grows significantly in the longer term, as households attempt to replace lost children (Schindler and Brück, 2011) or otherwise engage in Weberian reproductive practices.

Given the general lack of clarity on these results, it is not (immediately) clear whether or not conflict has adverse impacts on marriage markets and fertility or if these effects are, for the most part, neutral. We note that a major exception is the potential for early, not just "earlier", marriage in Nepal, and the wide programmatic literature on the prevention of child marriage that exists (e.g. Brown, 2012; Gaffney-Rhys, 2011; Jain and Kurz, 2007). As other changes are neutral, it is not clear what role policy prescriptions play, or even the aims they would have.

4. Cross-cutting themes

Although we propose conflict, itself, to be a cross-cutting theme in that it interacts with multiple other topics within the Rural Development Report, we note that there are also a range of cross-cutting themes inherent in conflict. That is, there are (adverse) impacts of conflict that could have impacts at all stages of the life cycle and are, therefore, worth considering outside the life cycle framework.

4.1 Agriculture

Agriculture and informal economic activities are invaluable pillars for job creation in conflict-affected and fragile countries, particularly in rural areas. Just over one third of the population of SSA are categorized as "youth" (United Nations, 2017b). In turn, the agricultural sector should be an obvious choice for employment and income generation. However, the engagement of youth in agriculture remains extremely low given that the average age of farmers in Africa is approximately 60 years (FAO, 2014). Hence, there is considerable lack of interest in engaging in farming activities, and indeed reluctance to do so, among the youth, which is clearly manifested in the high level of rural-urban migration among young Africans.

In conflict settings, the rural youth who migrate voluntarily seeking better economic opportunities or who are forced to migrate to safer areas away from violence are less likely to return to their rural homes. This trend has been a centre of attention of many international development organizations and national governments. Both scientific and development work have attributed the challenge to a number of factors, which include limited access to land and markets, ineffective agricultural value chains and lack of inclusive training in agriculture, among others. These conditions are particularly worsened in remote fragile and conflict-affected areas, especially in regard to access to farming land. Therefore,

there is a close triangular link between governance and political stability, agricultural productivity, and rural youth migration.

Overcoming these intertwined challenges is difficult, and hence it is imperative to enhance localized engagement by promoting the importance of agricultural and farming, both as a tool to reduce the stresses of fragility and conflict (e.g. strengthening food security) and to create opportunities for the youth to contribute to the economy away from violent actions.

Moreover, the low level of rural youth's engagement and employment in agriculture has myriad repercussions in fuelling conflict. First, low agricultural productivity during times of conflict results in great shortage of food and heightened food insecurity, which in turn increases the likelihood of conflict. Second, youth seeking off-farm economic opportunities who migrate away from rural areas face many economic and social challenges, which results in increased economic and social deprivation. This fuels grievances among the youth, which can lead to political riots and an increased likelihood of conflict onset. Hence economically and socially empowering rural youth through offering sustainable and attractive agriculture opportunities and providing applicable and technical know-how and training can prevent long-term eruption of violence. Yet, as long as the opportunity cost of engaging in farming activities is perceived as being higher than that of joining rebel groups or migrating, the vicious triangular link cannot be broken. Whether or not the formation of beliefs about such opportunity costs is rational or time-consistent remains an important question, however.

Despite the relevance of the linkages between youth and agriculture, there remains surprisingly a lack of knowledge on several important and relevant questions concerning rural youth in fragile and conflict-affected states. These include: How do livelihood choices and decision-making of rural youth differ under politically stressful conditions, such as in conflict and fragile settings? What are the opportunity costs facing rural youth during wartime? Does the increased engagement of youth in agriculture strengthen socio-economic resilience, and, if so, how? And, finally, does the engagement of rural youth in agriculture help prevent violence on one hand and strengthen peacebuilding on the other hand?

4.2 Migration

That conflict causes, often mass, movements of people is very strongly determined in the literature (Melander and Öberg, 2006; Davenport et al., 2003; Moore and Shellman, 2002; Schmeidl, 1995). Individuals volunteer to move away from conflict, whether very short or very long distances. While there is a certain layer of voluntariness to these actions, however, it should not be forgotten that even economic migration can come at the cost of eroded cultural ties and networks in origin countries. That conflict also leads to involuntary migration, however, is of even greater concern.

Individuals who are involuntarily displaced face an array of problems that only grows as the duration of the displacement increases. Households rarely recover lost assets (Ibanez, 2009); consumption and ownership of assets is damaged (Ibanez and Moya, 2006); harsh conditions are experienced during and after displacement (Bozzoli et al., 2016); adverse coping strategies are often required (Bozzoli et al., 2016); and chronic poverty and poor labour market outcomes in origin and home countries can emerge (Raeymaekers, 2011). This can include cases of skills mismatches, especially for rural youth, whose agricultural skills may have little value in urban locations to which they are displaced. In turn, even when individuals return to their place of origin, it is unclear if, or when, their quality of life will return to its previous standards. In contrast, much literature has focused on integration of displaced populations in destinations, rather than on the welfare impacts of such migrations. While some work (e.g. Jacobsen et al., 2006) has looked at livelihood creation programmes, the welfare of forcibly displaced people remains low (Verme et al., 2015), suggesting a requirement for deeper mitigation of the effects of (forced) displacement.

Given that priors suggest that distress migration might be high among rural youth, particular focus on this group is required – not least on the determinants of this migration, the consequences of skills mismatches and the kinds of behaviours that might result. In turn, policy evidence on what works to counter these outcomes for this particular group is required. For example, especially given the importance of agriculture to the rural community, it should not be an afterthought in addressing the needs of involuntarily displaced people, or the populations hosting them (FAO, 2017). Consequently, "rebuilding the agricultural sector [is a] fundamental condition" (FAO, 2017, page iv) In turn, agriculture and rural development, more generally, become key cornerstones in curbing migration pressures (FAO, 2016). In turn, meaningful investment in rural development can become an important part of the response to current and future migration challenges. How successful are the interventions that have aimed to achieve this, however, is an open question.

4.3 Community participation and social cohesion

There is vigorous debate on the impacts of conflict on the social cohesiveness of communities, including rural communities and societies. On the one hand, extensive literature argues that conflict and violence weaken social bonds by eroding trust, spreading violent norms and reducing civil engagement (Colletta and Cullen, 2000a,b). In a broad sense, this is supported by a range of experimental results. Rohner et al. (2013) show conflict interacts with conflict in Uganda; Silva and Mace (2015) that many forms of charitable giving go down in events of sectarian conflict; and Cassar et al. (2013) that various forms of giving in laboratory experiments decline. Despite this, however, a wide range of work (see Bauer et al., 2016, for a review) argues that a different fact exists – that conflict, in fact, results in an increase in prosocial behaviour, based on a meta-analysis of 16 studies in various conflict settings. Historically, there appear to have been situations where war has fostered societal transition and strengthened existing states and the public institutions that promote cohesion (Carneiro, 1970; Choi and Bowles, 2007; Diamond, 1999; Flannery and Marcus, 2003; Morris, 2014; Tilly, 1985). At the micro level, war has been shown to promote prosociality in a range of situations (e.g. Voors et al., 2012; Bellows and Miguel, 2009). War seems to have spurred psychological processes that lead to the emergence of more complex forms of societal organization, and individuals exposed appear to be more cooperative, have strong other-regarding preferences, join more civic groups, more willingly assume leadership roles in their communities and are more likely to contribute to collective actions.

In part, however, these effects may also depend on the experience individuals have as a consequence of this violence (Rojo-Mendoza, 2014). Those directly victimised, for example, may receive social support, which in turn changes their own preferences for reciprocation. In turn, ongoing work (Ferguson and Leroch, 2019) suggests differences may also exist across type of conflict one is exposed to, the perpetrator of that violence and how one is personally affected. Given the mix of pro- and antisocial outcomes that have stemmed from different conflicts (and, potentially, within the same conflict), this constitutes a major research gap. This complex picture is complicated by confounding effects from omitted variables. For example, individuals might select into different neighbourhoods, which affects how they are exposed. More cooperative individuals may be more likely to experience certain forms of conflict; or the least prosocial might be more likely to be killed or migrate as a consequence of conflict. Distinguishing more carefully along the spectra of conflict, violence and fragility, and isolating and separating causal impacts are likely to integrate the seemingly rival (sets of) theories.

Once again, therefore, the precise need for prosocial policy and programming is not so clear cut. While Collier (2003) describes conflict as development in reverse, these lessons might not apply to social cohesion and other social aspects in the aftermath of violence. In turn, whether or not programming is expressly needed is, in itself, a key question. Beyond that, however, there is some evidence from field experiments (Fearon et al., 2009; Gilligan et al., 2014; King et al., 2010) that development

interventions might boost prosocial behaviour in post-conflict periods; while other forms of political "intervention", such as elections, might achieve the same (Grossman and Baldassarri, 2012). In turn, while this does not necessarily prove the need for such interventions, there is some suggestion that they can be successful if and when they are needed, although, we note, such evidence is not necessarily guaranteed (Esenaliev et al., 2016; Aladysheva et al., 2017).

4.4 Radicalization and young people as fighters

Recent terror events worldwide have brought back the question of the drivers of youth radicalization back onto the agenda. Most of the perpetrators of recent terror events have been below the age of 25 but, despite a plethora of evidence on youth radicalization (Onuoha, 2014; Yusuf, 2011; Yom and Sammur, 2017), work here has tended to focus on group ideologies, rather than the underlying processes. Relative deprivation and marginalization have been found to be stronger determinants of radicalization in Europe than political identity (Franz, 2007; Gurr, 2013). By contrast, however, seminal evidence from Lebanon suggests that terrorists are actually more highly educated and more likely to be from middle-class backgrounds than the population as whole (Krueger and Malekova, 2003). While it is, therefore, a common view that youth in fragile places, who already face a myriad of social and economic challenges, constitute a pool of potential extremists, a "unit of analysis" problem exists at the individual level (Blattman and Ralston, 2015) to broadly confirm this relationship, although in many conflicts, such as Sierra Leone, a majority of combatants were young people from rural backgrounds (Bellows and Miguel, 2009).

Experience of military service in armed groups has left marks on the lives of millions of young people across the world (Wesselis, 2006; Derluyn et al., 2004). Understanding how and why young people, and those from rural areas, become involved in conflicts as perpetrators is, therefore, of key importance. In contrast, however, recent work (Brück et al., 2017; Blattman and Ralston, 2015) has suggested that, while there is a plethora of macro-level evidence on these reasons (Becker, 1968; Collier and Hoeffler, 2004), the micro-foundation of this literature – particular on individual choices to engage in collective violence – is often absent. In turn, it is also difficult to understand how such decisions can be deterred.

Reintegration of ex-combatants in the post-conflict phase, however, is also of extreme importance, as these individuals are likely to be among those who, otherwise, might pose the greatest threats to future peace and stability (Ginifer, 2003). In turn, a substantial literature has developed around the reintegration of former combatants in the post-war period (e.g. Colletta et al., 1996; Fusato, 2003; Rossi and Giustozzi, 2006; Leff, 2008). While there are some notable successes in this literature (Blattman and Annan, 2013; Humphreys and Weinstein, 2007), and while international organizations have initiated large-scale demobilization programmes, knowledge of their effectiveness is somewhat limited. On the one hand, little is known about the causal legacies of military service and violence at a young age on post-service employment. On the other, most disarmament, demobilization and reintegration (DDR) efforts have not been rigorously or systematically evaluated.

4.5 Gender-based and sexual violence

Exploring rural youth affected by fragility and conflict through a gender lens emphasizes important issues around the victimization, vulnerability and protection of young women in violent contexts. Sexual abuse and rape are particularly ferocious atrocities young women experience (in addition to many others such as enslavement and forced marriage) and over the past decade have gained prominence in qualitative research, media reporting and the policy sphere. Recent research shows that these acts are likely to occur in all situations of fragility and conflict and for various reasons, including, but certainly not limited to, use as a "weapon of war" (Wood, 2006, 2009, 2010; Cohen, 2016). Yet it is difficult to quantify its prevalence and myriad consequences, for many reasons related

to data collection. Thus, quantitative estimates of prevalence at any level of aggregation should be interpreted with caution (Peterman et al., 2011a,b). The recent Sexual Violence in Armed Conflict (SVAC) dataset offers a comprehensive database of sexual violence during armed conflicts since 1980. It includes six dimensions of sexual violence – prevalence, perpetrators, targeting, form, location and timing – and provides path-breaking cross-national estimates, but does not provide information on victims because of the aforementioned data issues and limitations (Cohen, 2013; Cohen and Nordås, 2014).

5. Analyses for pull-out boxes

To generate the pull-out boxes, we conduct an analysis that uses publicly available data sourced from the most recent wave of Afrobarometer data in seven randomly selected African countries with present and/or historical conflict and fragility burdens: Burundi, Guinea, Kenya, Liberia, Sierra Leone, Sudan and Uganda. We use Afrobarometer data because it is comparable across countries, unlike many other major sources, such as Living Standards Measurement Study LSMS surveys. This ensures that any comparability, or divergence, in the results across different countries relate to differences in those findings, rather than in the survey technology.

From Afrobarometer, we define exposure to violence from a question that asks individuals if they have been the victim of violence in the last year. We match this data to the urban/rural market within the survey and generate our youth population based on age information included in the survey. In addition, we extract information on a range of indicators of interest, related to our life stages models. Specifically, we extract the highest level of education individuals have completed; their employment status; and whether or not they are currently either employed or in education, in order to determine "idleness". In addition, we also extract gender and age as controls in our analyses.

We run a series of non-causal regression analyses on each of these indicators, with the aim of extracting whether or not these indicators are significantly worse for conflict-exposed rural youth than other groups. It is important to note that these analyses essentially establish conditional correlations between the inputs in question and do not establish if any of the inputs has caused conflict, or if conflict has resulted in the outcomes. Rather, the analyses are designed to understand the conditions of rural youth in conflict, rather than the causes of those conditions.

We therefore conduct what amounts to a difference-in-difference-in-difference analysis. Here, we seek to establish the relationship of the combination of rural youth and conflict on outcomes, compared with the same outcomes for a range of other groups (e.g. non-conflict-affected urban youth; conflict-affected non-youth). We therefore estimate the following equation:

$$out_{it} = \alpha + \beta_1 y_{it} + \beta_2 r_{it} + \beta_3 v_{it} + \beta_4 (y_{it} * r_{it}) + \beta_5 (y_{it} * v_{it}) + \beta_6 (r_{it} * v_{it}) + \beta_7 (y_{it} * r_{it} * v_{it}) + \varepsilon_{it} \quad (1)$$

In equation (1), the impact of violence on rural youth is, therefore, captured by the interaction of the urban/rural binary variable; the youth/non-youth binary variable; and the violence exposure binary variable.

We present full results from these analyses in tables A1-A3 in the appendix. To simplify the analysis, we also conduct a more direct comparison between conflict-affected and non-conflict-affected rural and non-rural youth. Full results from these analyses can be found in tables A4-A6. We discuss the results below. Summary statistics for the main variables are presented in table 3 below. We compare these results across two classifications within the rural transformation space that are available within

this sample: where the structural transformation typology is “low-slow” and “low-fast”.⁹ Results from these analyses are presented below in table 4. To generate these results, we take the mean value of each variable within a transformation space and then use a simple *t*-test to compare these means.

Table 3. Pooled summary statistics for key variables ($N = 11,946$)

Variable	(1) Mean	(2) SD	(3) Min.	(4) Max.
Rural	0.695	0.460	0	1
Age	39.60	47.79	18	79
Violence	0.104	0.306	0	1
Employment	0.371	0.483	-1	1
Education	3.296	5.418	-1	3
Gender	1.501	0.500	1	2
Idle	0.428	0.495	0	1
Youth	0.181	0.385	0	1

On average, our sample contains more men than women, which is as likely to be a product of Afrobarometer’s sampling process as anything else. On average, the respondents are just under 40 years of age, but range from 18 to almost 80, with almost 20 per cent matching our definition of youth; similarly, we see slightly more urban than rural individuals but a large proportion of the sample resides in rural areas, meaning that we can meaningfully separate rural youth from other groups within the data. Finally, we see that over 10 per cent of the sample (thus, some 1,200 individuals) have experienced violence, further allowing disaggregation of this information into those who have experienced violence directly and those who have not.

Table 4. Comparison of means of key variables across rural opportunity space ($N = 11,946$)

Variable	(1) means	(2) meanlf	(3) diff
Violence	0.124	0.0853	0.0385***
(-6.89)			
Rural	0.751	0.639	0.112***
(13.36)			
Youth	0.189	0.173	0.0156*
(2.22)			
Age	38.92	40.29	-1.374
(-1.57)			
Gender	1.501	1.501	-0.000166
(-0.02)			
Education	2.72	3.87	-1.149***
(-11.66)			
Employment	0.295	0.446	-0.151***
(-17.23)			
Idle	0.51	0.346	0.164***
(-18.39)			

Standard errors in parentheses. ***, $p < 0.01$; **, $p < 0.05$; *, $p < 0.1$.

⁹ Unfortunately, because of the sample countries chosen by our process and the fact that we focus on sub-Saharan Africa, we see very little variation in other domains of the rural transformation space, suggesting these analyses split in other ways are unlikely to be revealing in terms of the differences seen between such clusters.

In table 4, we see that there are key structural differences across the different structural transformation typology groups. Those in the “low-fast” cluster of countries are significantly less likely to have been victimized by violence than those in the “low-slow” cluster of countries. However, by contrast, they are also less likely to be “youth”, they exhibit higher education and employment outcomes and they are less likely to be idle.

5.1 Education

When we analyse the entire sample, we find that individuals in rural communities are less educated than their urban counterparts, but that youth do not appear to be any more poorly educated than other age groups.

Perhaps of more interest is that, with the exception of Liberia, we find no evidence that rural communities exposed to violence have different educational outcomes from rural areas that are not. In Liberia, unexpectedly, the relationship is positive, suggesting that rural areas that experience violence actually exhibit higher levels of education than those that do not. We find no impact of interaction with youth exposed to violence, suggesting that young people exposed to violence are no worse off, in terms of education, than those who are not. Perhaps even more interestingly, we find quite robust evidence (significant in three of seven countries) that rural youth (when controlling for the general negative impact on education experienced in rural communities) are actually slightly more educated than their older counterparts. Put another way, this suggests that, while both young and old in rural areas have lower levels of education than their urban counterparts, the gap is smaller between youth than between older generations. Finally, we find no evidence that being a rural young person exposed to violence worsens education, compared with other societal groups. When we analyse the relationships for youth, the same broad results hold.

5.2 Employment

When we analyse the entire sample, we find that, in most countries (Sierra Leone excepted), there is a negative relationship between being resident in a rural community and reduced probability of being employed; we also find a strong and robust correlation in all countries between being a young person and reduced employment opportunities. However, once again, we find little evidence that violence impacts on employment opportunity, although it is slightly lower in Kenya. Moreover, exposure to conflict does not appear to exacerbate the adversities of either being young or living in a rural location. Indeed, in Burundi we find that exposure to violence, in part, mitigates the impacts of being from a rural area, while in Sudan and Uganda there is some evidence that exposure to violence mitigates the adversities associated with being young.

However, in both Burundi and Sudan, we see a strong and negative impact associated with rural youth experiencing violence. In addition to the adversities associated with being young and being from a rural area, experience of violence further lowers the probability of being employed. In both countries, there is, therefore, a “triple whammy” of being young, being from a rural area and being exposed to conflict.

5.3 Idleness

Of interest in Guinea and Sierra Leone is that experience of violence is negatively correlated with idleness – that is, individuals who experience violence are less likely to be idle than those who do not. Across the sample as a whole, however, individuals in rural areas are much more likely to be idle in youth. In Burundi, Guinea and Uganda, being rural and young has an additional negative impact. The negative impacts of being in a rural area and of being young compound each other. The impact of violence is, again, not terribly clear-cut, however. Violence does not exacerbate the negative effects of being from a rural area in any country. Similarly, while youth exposed to violence are more likely than

youth as a whole to be idle in Guinea, they are less likely to be so in Liberia and Sudan, with no effects in the other countries. Beyond this, we once again find no evidence that there are any unique effects of being young, rural and exposed to conflict.

In combination, these results fail to paint a clear-cut picture that rural youth exposed to violence are worse off than rural youth more generally, or indeed that youth from any place exposed to violence, or individuals from any area, are necessarily worse off for experiencing conflict than their counterparts who do not. Given the depth of the literature, this might well be somewhat surprising, yet we note some key messages that we can learn from these results. For example, rural youth who are exposed to conflict in Burundi face significant adversities as a consequence of all three sets of experiences; similarly, we see evidence that violence worsens the probability of rural individuals in Guinea being idle.

Despite this, we should not mask the fact that the results here are somewhat underwhelming and lack a main or distinct set of takeaways. However, this may relate in part to the definition of exposure to violence at the individual level. This may simply reflect the fact that individuals who are victims of violence do not, for the most part, experience greater adversities than those who experience violence as a more covariate shock, as much as it suggests that we do not capture the impacts of conflict that are suggested by a substantial body of literature.

6. DDR programming pull-out

The DDR of armed group members is a cornerstone of ending conflicts and keeping peace. DDR programmes have been implemented in countries around the world in settings as diverse as Colombia, the Philippines and the Democratic Republic of the Congo.

The United Nations defines the key terms as follows (UNDDR, 2005):

Disarmament is “the collection, documentation, control and disposal of small arms, ammunition, explosives and light and heavy weapons of combatants and often also of the civilian population”.

- Demobilization is “the formal and controlled discharge of active combatants from armed forces or other armed groups”.
- Reintegration is “the process by which ex-combatants acquire civilian status and gain sustainable employment and income”.

As participation in DDR services is often non-randomly distributed among demobilizing soldiers, estimating the causal effects of programmes statistically is complicated. A few rigorous studies exist, but results on impacts vary substantially. Humphreys and Weinstein (2007), for instance, use detailed survey data and matching but find no strong effects of programme participation in Sierra Leone, while Gilligan et al. (2013) use a quasi-experimental approach to identify positive economic impacts in Burundi (but not downstream impacts on social or political integration). Work on ex-combatants in Angola suggests that DDR programme participation had little impact on long-run behaviour caused by wartime experiences (Justino and Stojetz, 2018; Brü and Stojetz, 2018). Seethaler (2016) provides a recent, general overview of impact assessments, possibilities and challenges of DDR programmes.

The existing evidence suggests that programme context, design and modalities are critically important. Early DDR efforts sought to merely dissolve armed groups and break existing structures and ties. Over time, programmes have come to emphasize promoting positive peace and long-term development and have adapted to the changes in contexts, operational set-ups and legal challenges (Muggah and O'Donnell, 2015). Still, the focus is often on reintegration in economic terms, providing cash transfers and occupational training to the veterans. More recent programmes broaden the scope and offer

additional services such as psycho-social counselling and police monitoring. Yet it is apparent that programmes also need to better account for wartime trajectories and trauma, preferences, behavioural biases of veterans and the post-war realities they face.

In many contexts, soldiers come from and return to rural settings at a young age. Many challenges are particularly relevant to rural youth and are illustrated by the Angolan experience, where most men were obliged to join an armed group in their teenage years and most survivors returned to their rural communities of origin (Human Rights Watch, 2005; Parsons, 2004; Porto et al., 2007; Ruigrok, 2006; Udelsmann Rodrigues, 2007; World Bank, 2010). First, the reinsertion support mandated by the Luena Memorandum of Understanding signed at the end of the Angolan war, including agricultural kits and training, reached only very few demobilizing soldiers. Second, many returnees faced issues related to land, including restricted access to land/issues of property rights, difficult growing conditions on plots that had lain fallow for years and the threats posed by the vast number of unexploded landmines scattered across the country. Third, many returnees were denied basic rights of citizenship, as they did not have identity documents, hampering prospects of being hired, making investments and becoming more productive. Fourth, many returnees did not have the skills and/or did not want to be farmers (contrary to the expectations of policymakers), triggering subsequent migration to urban areas. Fifth, many were adversely affected by the timing and politics of the transition in Angola from the receipt of emergency and humanitarian aid to longer-term development assistance from the international community. For example, food aid and the distribution of seeds and tools were sometimes suspended before veterans were even able to cultivate land.

7. Conclusions

In this paper, we discuss how conflict, as a cross-cutting issue, interacts with the lives of young people in the rural areas of the world. To the best of our knowledge, and quite surprisingly, this is the first such survey focusing on this topic. We first provide some basic intuition of who the rural youth living in conflict are and how likely this group is to experience violence. Based on UCDP/PRIO definitions of countries currently at war, we show that at least 350 million rural youth were exposed to conflict in 2016, the most recent year for which UCDP/PRIO data are available. Although a startling number in itself – especially as it suggests that about one third of the world's rural youth were exposed to violence in a single year – we note that it is probably a conservative estimate. UCDP/PRIO definitions require a minimum of 25 battle deaths per year and that at least one actor in the conflict is the state. This ignores the wider range of violence, including one-sided anti-government violence, terrorism and non-fatal uprisings, such as riots.

By a similar token, we show that the rural transformation space interacts in various ways with different forms of violence. For example, "traditional" forms of political violence tend to take place in the areas with the lowest commercialization potential (i.e. areas with relatively low night-time luminosity per population), while the opposite is true for riots, which tend to take place in areas with higher commercialization potential. Perhaps of greater importance, however, we find that conflict disproportionately affects rural youth. Although they account for about 7.2 per cent of the world's population, we estimate that they constitute at least 10 per cent of the populations (and 60 per cent of the youth) exposed to conflict. On one hand, this might not be too surprising. In the context of work on fragility (Baliki et al., 2017), for example, youth are shown to experience fragility much more intensely than older individuals. On the other hand, however, it shows a surprising knowledge gap. Although they bear a disproportionate brunt of conflict exposure, and are among those most likely to be recruited into organized violent groups in a number of conflicts (Urdal, 2006), work focusing directly, or specifically, on rural youth affected by conflict is rare and, for multiple life stages, almost entirely absent.

Similarly, despite a wealth of macro-level evidence on the kinds of conditions in which conflict takes place, and how this might hint at the role played by rural youth, we note that there is a key problem with the unit of analysis (Blattman and Ralston, 2015; Brück et al., 2016) when it comes to mapping such suggestions to the individual level. Precisely why rural youth (or any other definable social grouping) might select into violence is unclear. Differentiating the rural youth most at risk of engaging in such antisocial behaviours from those who are not remains a difficult task.

In turn, although not providing a direct challenge to the notion that rural youth are likely perpetrators of violence, our body of work deviates from this in two key ways. First, it shows that there is a need for deeper research on who perpetrates violence. At the policy level, this is important because it provides better understanding of how peacebuilding programmes can be targeted, which is likely to maximize efficiency and impact. Second, and perhaps more importantly, it suggests a need to challenge this inherently negative notion about youth in conflict. As well as being potential perpetrators, we show in depth that rural youth are the victims of conflict, and that such victimization is associated with a whole array of adverse outcomes for youth that stretch into later life and threaten their capacity to transition into full adulthood. By a similar token, while many policy interventions have sought to target rural youth in a wide range of ways, we find little evidence of systematic learning from these interventions, particularly in conflict settings. In the absence of such learning, it is not clear what helps, let alone what helps most.

We therefore review what the academic literature and accumulated knowledge to date has to say about the impacts of being exposed to conflict in general and how those lessons can, or at least might, be relevant to rural youth. From this work, we note that exposure to conflict cuts across a range of strata that are important for all youth, including rural youth. From this, we develop the life stages model where we understand how conflict directly (and indirectly, by its impact on earlier-life outcomes) impacts, and most often damages, the lives of those exposed to it (see Calderon-Mejia and Cantu, 2017).

Broadly speaking, we show that conflict can cause harm at almost all stages of young people's lives: from before they are born until they seek to form their own families. Within this, however, we point to a number of key knowledge gaps, which in turn have implications for policy prescriptions to overcome this harm. More optimistically, however, we also point to some evidence from policy that shows how such adverse outcomes can, at least in part, be mitigated. This includes work on demobilizing and rehabilitating conflict actors (Humphreys and Weinstein, 2007; Gilligan et al., 2013), on boosting post-conflict livelihoods (Blattman et al., 2014), on the role of psycho-social support (Blattman et al., 2017), etc.

From this work, four messages become clear. First, conflict appears to come close to being "development in reverse", causing harm directly and indirectly to those exposed to it at all, and across all, life stages. Second, because rural youth face a unique set of circumstances and adversities (even in peacetime) and because they are disproportionately exposed to conflict, they are uniquely vulnerable to these adverse effects. Third, in this context, it is somewhat surprising that so little work has focused specifically on how conflict affects this group, compared to other socio-demographic groups. Finally, while there remains significant work to do, there are some optimistic results from programming on how to mitigate at least some of these effects, although, again, these results often lack a focus on rural youth.

In this regard, in some ways this background paper disputes the usual narratives that surround (rural) young people and conflict, not least that the hypothesis that rural youth are likely to engage in antisocial behaviour casts them as troublemakers, or a threat. This narrative is inherently negative and masks the damage that conflict causes to the lives of these very same people. The perception of this narrative has been enhanced by discussion of the youth bulge and fast population growth, as well as shrinking rural opportunity. By contrast, we show that the key issue for rural youth is how they are

affected by conflict. In turn, policy prescriptions should assist in building resilience to, and promoting recovery from, the experience of conflict, as well as on preventing it in the first place.

We therefore conclude, jointly, that more work needs to be done to understand, specifically, how and why exposure to conflict harms the lives of rural youth by contrasting and comparing both the exposure to conflict of this group with the exposure of other groups and the impacts of that exposure with the impacts of exposure of other groups. Stemming from that, and given that rural youth are disproportionately affected by conflict, we note the need for specific programming that aims to protect rural youth during conflict and in the post-conflict period. This builds on three concepts: first, that the life endowments of rural youth are different from those of other groups, such as urban youth and even rural non-youth; second, that how they experience conflict is, in part, a product of these endowments; and third, that as a consequence, rural youth may require different policy prescriptions from other groups.

References

- Abadie, A., and J. Gardeazabal. 2003. The economic costs of conflict: A case study of the Basque Country. *American Economic Review* 93(1): 113-132.
- Akresh, Richard, and Damien De Walque. 2008. Armed conflict and schooling: Evidence from the 1994 Rwandan genocide. HiCN Working Papers, 47. <http://econpapers.repec.org/paper/hicwpaper/47.htm>.
- Akresh, Richard, Sonia Bhalotra, Marinella Leone, and Una Okonkwo Osili. 2012. "War and stature: Growing up during the Nigerian civil war", *American Economic Review* 102(3): 273-277.
- Aladysheva, A., Kzyz, G.A., Brüch, T., Esenaliev, D., Karabaeva, J., Leung, W. and E. Nillesen (2017). Impact evaluation of the Livingsidebyside peacebuilding educational programme in Kyrgyzstan. Final Report to the International Initiative for Impact Evaluation (3ie) Alderman, Harold, John Hoddinott, and Bill Kinsey. 2006. Long term consequences of early childhood malnutrition. *Oxford Economic Papers* 58(3): 450-474.
- Ali, H. E. 2014. Conflict types and child and infant mortality rates: Evidence from panel data. SSRN. <https://ssrn.com/abstract=2742367>.
- Asciutti, E., A. Pont, and J. Sumberg. 2016. *Young people and agriculture in Africa: A review of research evidence and EU documentation*. IDS Research Report 82.
- Baliki, Ghassan & Brüch, Tilman & Ferguson, Neil T.N. & Kebede, Sindu W., 2017. "Micro-Foundations of Fragility: Concepts, Measurement and Application," IZA Discussion Papers 11188, Institute for the Study of Labor (IZA). Barrera, Felipe, and Ana María Ibáñez. 2004. Does violence reduce investment in education? A theoretical and empirical approach. Documentos CEDE 002382, Universidad de los Andes – CEDE. <https://ideas.repec.org/p/col/000089/002382.html>.
- Bauer, M., C. Blattman, J. Chytilová, J. Henrich, E. Miguel, and T. Mitts. 2016. Can war foster cooperation? *Journal of Economic Perspectives* 30(3): 249-274.
- Baumol, W. J. 1986. Productivity growth, convergence, and welfare: What the long-run data show. *American Economic Review* 76(5): 1072-1085.
- Becker, G. S. 1968. Crime and punishment: An economic approach. In *The economic dimensions of crime*, 13-68. London: Palgrave Macmillan.
- Bellows, J., and E. Miguel. 2009. War and local collective action in Sierra Leone. *Journal of Public Economics* 93(11-12): 1144-1157.
- Bergholt, D., and P. Lujala. 2012. Climate-related natural disasters, economic growth, and armed civil conflict. *Journal of Peace Research* 49(1): 147-162.
- Bhutta, Z. A., G. L. Darmstadt, B. S. Hasan, and R. A. Haws. 2005. Community-based interventions for improving perinatal and neonatal health outcomes in developing countries: A review of the evidence. *Pediatrics* 115(Supplement 2): 519-617.
- Black, Robert E., Lindsay H. Allen, Zulfiqar A. Bhutta, Laura E. Caulfield, Mercedes de Onis, Majid Ezzati, Colin Mathers, and Juan Rivera, for the Maternal and Child Undernutrition Study Group. 2008. Maternal and child undernutrition. *The Lancet* 376(9608).

- Blanden, J., and P. Gregg. 2004. Family income and educational attainment: A review of approaches and evidence for Britain. *Oxford Review of Economic Policy* 20(2): 245-263.
- Blattman, Christopher and Annan, Jeannie, "Reintegrating and Employing High Risk Youth in Liberia: Lessons from a randomized evaluation of a Landmine Action an agricultural training program for ex-combatants" (2011). Global CWD Repository. 142.
<http://commons.lib.jmu.edu/cisr-globalcwd/142> .
- Blattman, C., and E. Miguel. 2010. Civil war. *Journal of Economic Literature* 48(1): 3-57.
- Blattman, C., and L. Ralston. 2015. Generating employment in poor and fragile states: Evidence from labor market and entrepreneurship programs. Available at SSRN: <https://ssrn.com/abstract=2622220> or <http://dx.doi.org/10.2139/ssrn.2622220>
- Blattman, C., N. Fiala, and S. Martinez. 2013. Generating skilled self-employment in developing countries: Experimental evidence from Uganda. *Quarterly Journal of Economics* 129(2): 697-752.
- Blattman, C., J. C. Jamison, and M. Sheridan. 2017. Reducing crime and violence: Experimental evidence from cognitive behavioral therapy in Liberia. *American Economic Review* 107(4): 1165-1206.
- Bozzoli, C. and T. Brück. 2009. Agriculture, poverty and post-war reconstruction: Micro-level evidence from northern Mozambique. *Journal of Peace Research* 46(3): 377-397.
- Bozzoli, C., T. Brück and T. Muhumuza. 2016. Activity choices of internally displaced persons and returnees: Quantitative survey evidence from post-war northern Uganda. *Bulletin of Economic Research* 68(4): 329-347.
- Bricker, N. Q., and M. C. Foley. 2013. The effect of youth demographics on violence: The importance of the labor market. *International Journal of Conflict and Violence (IJCV)* 7(1): 179-194.
- Brown, G. 2012. Out of wedlock into school: Combating child marriage through education. Gordon and Sarah Brown's Education For All campaign, London: The Office of Gordon and Sarah Brown.
- Brück, T. and K. Schindler. 2009. Smallholder land access in post-war northern Mozambique. *World Development* 37(8): 1379-1389.
- Brück T. and Stojetz, W. (2018). The war in your head: On the origins of domestic violence. Conference paper, presented at CSAE Conference, 2017, Oxford UK.
- Brück, T., W. Naudé, and P. Verwimp. 2013. Business under fire: Entrepreneurship and violent conflict in developing countries. *Journal of Conflict Resolution* 57(1): 3-19.
- Brück, T., M. Di Maio, and S. Miaari. 2014. Learning the hard way: The effect of violent conflict on student academic achievement. HiCN Working Papers, 185.
- Brück, T., N. T. N. Ferguson, W. Stojetz, and V. Izzi. 2017. Do jobs aid peace? The impact of employment interventions on peace, security and stability. *GREAT Insights Magazine* 6(1), February/March.
- Brück, Tilman, Ferguson, Neil T. N., Izzi, Valeria and Stojetz, Wolfgang (2016): "Jobs Aid Peace: A Review of the Theory and Practice of the Impact of Employment Programmes on Peace in Fragile and Conflict Affected Countries" ISDC Working Paper, September 2016.

- Brück, Tilman, Neil T. N. Ferguson, Jérôme Ouédraogo, and Zacharias Ziegelhöfer. 2018. *An impact evaluation of WFP malnutrition interventions in Niger: Summary evaluation report*. <https://docs.wfp.org/api/documents/WFP-0000063832/download/>.
- Bundervoet, Tom, Philip Verwimp, and Richard Akresh. 2009. Health and civil war in rural Burundi. *Journal of Human Resources* 44(2): 536-563.
- Burke, M. B., E. Miguel, S. Satyanath, J. A. Dykema, and D. B. Lobell. 2010. Reply to Sutton et al.: Relationship between temperature and conflict is robust. *Proceedings of the National Academy of Sciences* 107(25): E103-E103.
- Bussmann, M. 2010. Foreign direct investment and militarized international conflict. *Journal of Peace Research* 47(2): 143-153.
- Calderon-Mejia, Valentina and Fernando Cantu. 2017. The impact of conflict on human development from childhood to adulthood: Evidence from the Arab region. *Trends and Impacts* 5. New York: United Nations.
- Camacho, Adriana. 2008. Stress and birth weight: Evidence from terrorist attacks. *American Economic Review* 98(2): 511-515.
- Cappelli, P. 2012. *Why good people can't get jobs: The skills gap and what companies can do about it*. Wharton Digital Press. Philadelphia, PA.
- Carneiro, Robert L. 1970. A theory of the origin of the state. *Science* 169(3947): 733-738.
- Cassar, A., P. Grosjean, and S. Whitt. 2013. Legacies of violence: Trust and market development. *Journal of Economic Growth* 18(3): 285-318.
- Chamraborty, Rubiana, and Hilcías E. Morán. 2011. The human capital consequences of civil war: Evidence from Guatemala. *Journal of Development Economics* 94(1): 41-61.
- Choi, Jung-Kyoo, and Samuel Bowles. 2007. The coevolution of parochial altruism and war. *Science* 318(5850): 636-640.
- Claeson, M., E. R. Bos, T. Mawji, and I. Pathmanathan. 2000. Reducing child mortality in India in the new millennium. *Bulletin of the World Health Organization* 78: 1192-1199.
- Cohen, Dara K. 2013. Explaining rape during civil war: Cross-national evidence (1980-2009). *American Political Science Review* 107(3): 461-477.
- Cohen, Dara K. 2016. *Rape during civil war*. Ithaca, NY: Cornell University Press.
- Cohen, Dara K. and Ragnhild Nordås. 2014. Sexual violence in armed conflicts: Introducing the SVAC Dataset, 1989-2009. *Journal of Peace Research* 51(3): 418-428.
- Colletta, Nat J. and Michelle L. Cullen. 2000a. *Violent conflict and the transformation of social capital: Lessons from Cambodia, Rwanda, Guatemala, and Somalia (English)*. Washington, D.C.: World Bank. <http://documents.worldbank.org/curated/en/799651468760532921/Violent-conflict-and-the-transformation-of-social-capital-lessons-from-Cambodia-Rwanda-Guatemala-and-Somalia>.
- Colletta, N. J., and M. L. Cullen. 2000b. *The nexus between violent conflict, social capital and social cohesion: Case studies from Cambodia and Rwanda*. Washington, D.C.: World Bank, Social Development Family, Environmentally and Socially Sustainable Development Network.

- Colletta, N. J., M. Kostner, and I. Wiederhofer. 1996. *Case studies in war-to-peace transition: The demobilization and reintegration of ex-combatants in Ethiopia, Namibia, and Uganda*. World Bank Discussion Paper 331. Washington, D.C.: World Bank Publications.
- Collier, P. 2003. *Breaking the conflict trap: Civil war and development policy*. Washington, D.C.: World Bank Publications.
- Collier, P., and A. Hoeffler. 2004. Greed and grievance in civil war. *Oxford Economic Papers* 56 (4): 563-595.
- Currie, Janet, and Douglas Almond. 2011. Human capital development before age five. *Handbook of Labor Economics* 4: 1315-1486.
- Currie, Janet and Vogl, Tom, Early-Life Health and Adult Circumstance in Developing Countries (2013). *Annual Review of Economics*, Vol. 5, pp. 1-36. Dagnelie, Olivier, Giacomo De Luca, and Jean-François Maystadt. 2014. Do girls pay the price of civil war? Violence and infant mortality in Congo. IFPRI Discussion Paper 1374.
- Davenport, C., W. Moore, and S. Poe. 2003. Sometimes you just have to leave: Domestic threats and forced migration, 1964-1989. *International Interactions* 29(1): 27-55.
- Davies, L. 2003. *Education and conflict: Complexity and chaos*. Routledge.London.
- de Groot, O. J., and I. Göksel. 2011. Conflict and education demand in the Basque region. *Journal of Conflict Resolution* 55(4): 652-677.
- De Soysa, I., N. P. Gleditsch, M. Gibson, and M. Sollenberg. 1999. *To cultivate peace: Agriculture in a world of conflict*. Oslo: International Peace Research Institute.
- Derluyn, I., E. Broekaert, G. Schuyten, and E. De Temmerman. 2004. Post-traumatic stress in former Ugandan child soldiers. *The Lancet* 363(9412): 861-863.
- Derman, Bill, Odgaard, Rie & Sjaastad, Espen (eds.).— Conflicts over Land and Water in Africa. Cameroon, Ghana, Burkina Faso, West Africa, Sudan, South Africa, Zimbabwe, Kenya, Tanzania. Oxford, James Currey; East Lansing, Michigan State University Press; Pietermaritzburg, University of KwaZulu-Natal Press, 2007, 244 p., bibl., ill., index. Diamond, Jared. 1999. *Guns, germs, and steel: The fates of human societies*. W. W. Norton & Company. New York, NY.
- Dorsett, R. 2013. The effect of the troubles on GDP in Northern Ireland. *European Journal of Political Economy* 29: 119-133.
- Dowd, C. 2017. How does work feature in literature on youth participation in violence? IDS Working Paper 485, Brighton: IDS.
- Duffett, R. 2016. Introduction. In *Food and war in twentieth century Europe*, 19-28. Routledge. London.
- Dunn, C., E. Hanieh, R. Roberts, and R. Powrie. 2012. Mindful pregnancy and childbirth: Effects of a mindfulness-based intervention on women's psychological distress and well-being in the perinatal period. *Archives of Women's Mental Health* 15(2): 139-143.
- Duque, Valentina. 2017. Early-life conditions and child development: Evidence from a violent conflict. *SSM – Population Health* 3: 121-131.
- Enders, W., T. Sandler, and G. F. Parise. 1992. An econometric analysis of the impact of terrorism on tourism. *Kyklos* 45(4): 531-554.

- Esenaliev, D., J. Karavaeva, K. Tilekeyev, A. Aladysheva, B. Mirkasimov, N. Abdrazakova, A. Bolotbekova, S. Chalbasova, F. Pavan, R. Mogilevskii, and T. Brück. 2016. Kyrgyz Republic: Social cohesion through a community-based development project. Institute of Public Policy and Administration Working Paper 2016.
- FAO (Food and Agriculture Organization of the United Nations). 2014. Contribution to the 2014 United Nations Economic and Social Council Integration Segment. <http://www.un.org/en/ecosoc/integration/pdf/foodandagricultureorganization.pdf>.
- FAO. 2016. *Migration, agriculture and rural development: Addressing the root causes of migration and harnessing its potential for development*. Rome: FAO.
- FAO. 2017. *Forced migration in protracted crises: A multilayered approach*. Guidance Note. Rome: FAO.
- Fearon, J. D. 1995. Rationalist explanations for war. *International Organization* 49(3): 379-414.
- Fearon, J. D., M. Humphreys, and J. M. Weinstein. 2009. Can development aid contribute to social cohesion after civil war? Evidence from a field experiment in post-conflict Liberia. *American Economic Review* 99(2): 287-291.
- Ferguson, N. T., and M. M. Michaelsen. 2015. Money changes everything? Education and regional deprivation revisited. *Economics of Education Review* 48: 129-147.
- Ferguson, Neil T. N. and Leroch, Martin A. (2019): Re-exploring the behavioural impacts of violence: Evidence from Incentivized Games in Kenya." Mimeo.
- Fielding, D. 2004. How does violent conflict affect investment location decisions? Evidence from Israel during the intifada. *Journal of Peace Research* 41(4): 465-484.
- Fink, A., E. M. Yano, and D. Goya. 1992. Prenatal programs: what the literature reveals. *Obstetrics and Gynecology* 80(5): 867-872.
- Flannery, Kent V., and Joyce Marcus. 2003. The origin of war: New 14C dates from ancient Mexico. *Proceedings of the National Academy of Sciences of the United States of America* 100(20): 11801-11805.
- Franz, B. 2007. Europe's Muslim youth: An inquiry into the politics of discrimination, relative deprivation, and identity formation. *Mediterranean Quarterly* 18(1): 89-112.
- Fusato, Massimo. 2003. "Disarmament, Demobilization, and Reintegration of Ex-Combatants." Beyond Intractability. Eds. Guy Burgess and Heidi Burgess. Conflict Information Consortium, University of Colorado, Boulder. Posted: July 2003; available online: <https://www.beyondintractability.org/essay/demobilization>
- Gaffney-Rhys, R. 2011. International law as an instrument to combat child marriage. *International Journal of Human Rights* 15(3): 359-373.
- Gilligan, M. J., E. N. Mvukiyehe, and C. Samii. 2013. Reintegrating rebels into civilian life: Quasi-experimental evidence from Burundi. *Journal of Conflict Resolution* 57(4): 598-626.
- Gilligan, M. J., B. J. Pasquale, and C. Samii. 2014. Civil war and social cohesion: Lab-in-the-field evidence from Nepal. *American Journal of Political Science* 58(3): 604-619.
- Ginifer, J. 2003. Reintegration of ex-combatants. In *Sierra Leone: Building the road to recovery*, Mark Malan, Sarah Meek, Thokozani Thusi, Jeremy Ginifer, and Patrick Coker. Pretoria: Institute for Security Studies. Pp 39 – 52.

- Goldstone, J. A. 2002. Population and security: How demographic change can lead to violent conflict. *Journal of International Affairs* 56(1): 3-21.
- Grossman, G., and D. Baldassarri. 2012. The impact of elections on cooperation: Evidence from a lab-in-the-field experiment in Uganda. *American Journal of Political Science* 56(4): 964-985.
- Guha-Sapir, D., and O. D'Aoust. 2011. Demographic and health consequences of civil conflict. In *World Development Report 2011*. Washington, D.C.: World Bank.
- Guha-Sapir, D., and W. G. van Panhuis. 2004. Conflict-related mortality: An analysis of 37 datasets. *Disasters* 28(4): 418-428.
- Gurr, T. R. 2013. Economic factors. In *The roots of terrorism*, 97-114. Routledge. London.
- Hack, Maureen, Daniel Flanner, Mark Schluchter, Lydia Cartar, Elaine Borawski, and Nancy Klein. 2002. Outcomes in young adulthood for very-low-birth-weight infants. *New England Journal of Medicine* 346: 149-157.
- Heller, S. B., A. K. Shah, J. Guryan, J. Ludwig, S. Mullainathan, and H. A. Pollack. 2017. Thinking, fast and slow? Some field experiments to reduce crime and dropout in Chicago. *Quarterly Journal of Economics* 132(1): 1-54.
- Hendrix, C., and H. J. Brinkman. 2013. Food insecurity and conflict dynamics: Causal linkages and complex feedbacks. *Stability: International Journal of Security and Development* 2(2).
- Higgins, A. C., J. E. Moxley, P. B. Pencharz, D. Mikolainis, and S. Dubois. 1989. Impact of the Higgins Nutrition Intervention Program on birth weight: A within-mother analysis. *Journal of the American Dietetic Association* 89(8): 1097-1103.
- Hilker, L. M. 2011. The role of education in driving conflict and building peace: The case of Rwanda. *Prospects* 41(2): 267-282.
- Hollowell, J., L. Oakley, J. J. Kurinczuk, P. Brocklehurst, and R. Gray. 2011. The effectiveness of antenatal care programmes to reduce infant mortality and preterm birth in socially disadvantaged and vulnerable women in high-income countries: A systematic review. *BMC Pregnancy and Childbirth* 11(13).
- Homer-Dixon, T. F. 1994. Environmental scarcities and violent conflict: Evidence from cases. *International Security* 19(1): 5-40.
- Hsiang, S. M., M. Burke, and E. Miguel. 2013. Quantifying the influence of climate on human conflict. *Science* 341(6151): 1235367.
- Human Rights Watch. 2005. Coming home: Return and reintegration in Angola. *Human Rights Watch* 17(2) (A), March.
- Humphreys, M., and J. M. Weinstein. 2007. Demobilization and reintegration. *Journal of Conflict Resolution* 51(4): 531-567.
- Ibáñez, Ana Maria. 2009. Forced displacement in Colombia: Magnitude and causes. *Economics of Peace and Security Journal* 4(1): 48-54.
- Ibáñez, Ana Maria, and Andres Moya. 2006. The impact of intra-state conflict in welfare and consumption smoothing: Empirical evidence for the displaced population in Colombia. Households in Conflict Working Paper 23.

- Jacobsen, K., A. Marshak, A. Ofori-Adjei, and J. Kembabazi. 2006. IDP Livelihoods: Using microenterprise interventions to support the livelihoods of forcibly displaced people: The impact of a microcredit program in IDP camps in Lira, Northern Uganda. *Refugee Survey Quarterly* 25(2): 23-39.
- Jain, S., and K. Kurz. 2007. *New insights on preventing child marriage: A global analysis of factors and programs*. International Center for Research on Women (ICRW). Washington, DC.
- Jayaraman, Anuja, Tesfayi Gebreselassie, and S. Chandrasekhar. 2009. Effect of conflict on age at marriage and age at first birth in Rwanda. *Population Research and Policy Review* 28: 551-567.
- Patricia, Justino (2010). "How Does Violent Conflict Impact on Individual Educational Outcomes? The Evidence So Far", Background paper prepared for the Education for All Global Monitoring Report 2011 UNESCO "The Hidden Crisis: Armed Conflict and Education". Institute of Development Studies, Brighton, UK: University of Sussex. .
- Justino, P., and W. Stojetz. 2018. On the legacies of wartime governance. HICN Working Paper 263. Households in Conflict Network. The Institute of Development Studies. Brighton.
- King, E., C. Samii, and B. Snilstveit. 2010. Interventions to promote social cohesion in sub-Saharan Africa. *Journal of Development Effectiveness* 2(3): 336-370.
- Kiros, G., and D. Hogan. 2001. War, famine and excess child mortality in Africa: The role of parental education. *International Journal of Epidemiology* 30: 447-455.
- Krueger, A. B., and J. Maleková. 2003. Education, poverty and terrorism: Is there a causal connection? *Journal of Economic Perspectives* 17(4): 119-144.
- Kudo, Y. 2016. "Malaria infection and fetal growth during the war: Evidence from Liberia. IDE Discussion Paper 556.
- Lai, N. M. S. 2016. Global population age structures and sustainable development. Expert Group Meeting on Changing Population Age Structures and Sustainable Development, New York, 13-14 October. http://www.un.org/en/development/desa/population/events/pdf/expert/25/2016-EGM_Nicole%20Mun%20Sam%20Lai.pdf.
- Landale, N. S., R. S. Oropesa, and D. Llanes. 1998. Schooling, work, and idleness among Mexican and non-Latino white adolescents. *Social Science Research* 27(4): 457-480.
- Leavy, J., and N. Hossain. 2014. Who wants to farm? Youth aspirations, opportunities and rising food prices. *IDS Working Papers* 2014(439): 1-44. doi:10.1111/j.2040-0209.2014.00439.x.
- Leff, J. 2008. The nexus between social capital and reintegration of ex-combatants: A case for Sierra Leone. *African Journal on Conflict Resolution* 8(1): 9-38.
- Lehrer, K. 2008. Gender differences in labour market participation during conflict: Evidence from displaced people's camps in northern Uganda. University of British Columbia Mimeo.
- Linard, C., M. Gilbert, R. W. Snow, A. M. Noor, and A. J. Tatem. 2012. Population distribution, settlement patterns and accessibility across Africa in 2010. *PLoS ONE* 7(2): e31743.
- Lindskog, E. 2016. The effect of war on infant mortality in the Democratic Republic of Congo. *BMC Public Health* 16: 1059.
- Luzincourt, K., and J. Gulbrandson. 2010. Education and conflict in Haiti: Rebuilding the education sector after the 2010 earthquake. Special Report 245. United States Institute of Peace. Washington, DC.

- McDougal, T. L., and L. Almquist. 2014. The effects of agricultural cooperatives on land conflicts, violence, and community trust: Household-level evidence from rural Burundi. *Economics of Peace and Security Journal* 9(2).
- McDougal, T., and R. Caruso. 2016. Is there a relationship between wartime violence and postwar agricultural development outcomes? The case of concessions and community grants in Mozambique. *Political Geography* 50: 20-32.
- McGlynn, C., M. Zembylas, Zvi Bekerman, and Tony Gallagher eds. 2009. *Peace education in conflict and post-conflict societies: Comparative perspectives*. Palgrave Macmillan. New York, NY..
- Macinko, J., F. C. Guanais, and M. D. F. M. De Souza. 2006. Evaluation of the impact of the Family Health Program on infant mortality in Brazil, 1990-2002. *Journal of Epidemiology & Community Health* 60(1): 13-19.
- Mansfield, Y. 1994. The Middle East conflict and tourism to Israel, 1967-90. *Middle Eastern Studies* 30(3): 646-667.
- Mansour, Hani, and Daniel I. Rees. 2012. Armed conflict and birth weight: Evidence from the Al-Aqsa intifada. *Journal of Development Economics* 99(1): 190-199.
- Melander, E., and M. Öberg. 2006. Time to go? Duration dependence in forced migration. *International Interactions* 32(2): 129-152.
- Messer, E., and M. J. Cohen. 2007. Conflict, food insecurity and globalization. *Food, Culture & Society* 10(2): 297-315.
- Miguel, E., S. Satyanath, and E. Sergenti. 2004. Economic shocks and civil conflict: An instrumental variables approach. *Journal of Political Economy* 112(4): 725-753.
- Minoiu, Camelia, and Olga N. Shemyakina. 2014. Armed conflict, household victimization, and child health in Côte d'Ivoire. *Journal of Development Economics* 108: 237-255.
- Moore, W., and S. Shellman. 2002. Fear of persecution: A global study of forced migration, 1952-1995. Florida State University Working Paper, Miami.
- Morris, Ian. 2014. *War! What is it good for? Conflict and the progress of civilization from primates to robots*. Macmillan. New York, NY.
- Muggah, Robert and Chris O'Donnell. 2015. Next generation disarmament, demobilization and reintegration. *Stability: International Journal of Security and Development* 4(1): 30.
- Murphy, R. E., P. Ardanuy, F. J. Deluccia, J. E. Clement, and C. F. Schueler. 2006. The visible infrared imaging radiometer suite. In *Earth science satellite remote sensing*, 199-223. Berlin/Heidelberg: Springer.
- Nabarro, David. 2013. Global child and maternal nutrition – the SUN rises. *The Lancet* 382(9893): 666-667.
- O'Hare, B. and D. P. Southall. 2007. First do no harm: The impact of recent armed conflict on maternal and child health in sub-Saharan Africa. *Journal of the Royal Society of Medicine* 100(12): 564-570.
- O'Loughlin, J., F. D. Witmer, A. M. Linke, A. Laing, A. Gettelman, and J. Dudhia. 2012. Climate variability and conflict risk in East Africa, 1990-2009. *Proceedings of the National Academy of Sciences* 109(45): 18344-18349.

- Onuoha, F. C. 2014. *Why do youth join Boko Haram?* United States Institute of Peace. Washington, DC.
- Oslender, U. 2016. The banality of displacement: Discourse and thoughtlessness in the internal refugee crisis in Colombia. *Political Geography* 50: 10-19.
- Østby, G., R. Nordås, and J. K. Rød. 2009. Regional inequalities and civil conflict in sub-Saharan Africa. *International Studies Quarterly* 53(2): 301-324.
- Parsons, Imogen. 2004. Beyond the silencing of guns: DDR. In 'From military peace to social justice? The Angolan peace process', edited by G. Meijer. Special issue, *Accord*, no. 15.
- Peeters, P. 2009. *Youth employment in Sierra Leone: Sustainable livelihood opportunities in a post-conflict setting*. World Bank. Washington, DC.
- Peterman, Amber, Tia Palermo and Caren Bredenkamp. 2011a. Sexual violence in the Democratic Republic of the Congo: Population-based estimates and determinants. *American Journal of Public Health* 101(6): 1060-1067.
- Peterman, Amber, Dara Kay Cohen, Tia Palermo and Amelia Hoover Green. 2011b. Rape reporting during war: Why the numbers don't mean what you think they do. *Foreign Affairs* (online), 1 August.
- Porto, João G., Chris Alden, and Imogen Parsons. 2007. *From soldiers to citizens: Demilitarization of conflict and society*. Farnham: Ashgate Publishing Company.
- Raeymaekers, T. 2011. Forced displacement and youth employment in the aftermath of the Congo war: From making a living to making a life. MICROCON Research Working Paper 38. Institute of Development Studies, University of Sussex, Brighton, UK.
- Raleigh, C., and H. Urdal. 2007. Climate change, environmental degradation and armed conflict. *Political Geography* 26(6): 674-694.
- Raleigh, C., L. Jordan, and I. Salehyan. 2008. Assessing the impact of climate change on migration and conflict. In *Paper commissioned by the World Bank Group for the Social Dimensions of Climate Change workshop, Washington, DC*, 5-6. Available online: <http://siteresources.worldbank.org/EXTSOCIALDEVELOPMENT/Resources/SDCCWorkingPaperMigrationandConflict.pdf>
- Raleigh, C., A. Linke, H. Hegre, and J. Karlsen. 2010. Introducing ACLED: An armed conflict location and event dataset: Special data feature. *Journal of Peace Research* 47(5): 651-660.
- Reuveny, R. 2007. Climate change-induced migration and violent conflict. *Political Geography* 26(6): 656-673.
- Rockmore, M., C. B. Barrett, and J. Annan. 2016. An empirical exploration of the near-term and persistent effects of conflict on risk preferences. Households in Conflict Network Working Paper 239.
- Rodríguez, Catherine, and Fabio Sánchez-Torres. 2012. Armed conflict exposure, human capital investments, and child labor: Evidence from Colombia. *Defence and Peace Economics* 23(2): 161-184.
- Rodrik, D. 1999. Where did all the growth go? External shocks, social conflict, and growth collapses. *Journal of Economic Growth* 4(4): 385-412.

- Rohner, D., M. Thoenig, and F. Zilibotti. 2013. Seeds of distrust: Conflict in Uganda. *Journal of Economic Growth* 18(3): 217-252.
- Rojo-Mendoza, R. T. 2014. From victims to activists: Crime victimization, social support, and political participation in Mexico. Unpublished paper. University of Pittsburgh, PE.
- Rossi, S., and A. Giustozzi. 2006. Disarmament, demobilisation and reintegration of ex-combatants (DDR) in Afghanistan: Constraints and limited capabilities. Crisis States Working Paper Series No. 2, London School of Economics, London.
- Ruigrok, Inge. 2006. Whose justice? Contextualising Angola's reintegration process. *African Security Review* 16(1): 84-98.
- Schindler, Kati, and Tilman Brück. 2011. The effects of conflict on fertility in Rwanda. World Bank Policy Research Paper, World Bank.
- Schmeidl, S. 1995. From root cause assessment to preventive diplomacy: Possibilities and limitations of an early warning of forced migration. PhD diss. Ohio State University.
- Seethaler, Franziska. 2016. Assessing the impact of DDR programmes: Possibilities and challenges. United Nations University Office in New York Policy Brief, March.
- Shemyakina, Olga. 2010. The effect of armed conflict on accumulation of schooling: Results from Tajikistan. *Journal of Development Economics* 95(2): 186-200.
- Shemyakina, Olga. 2011. The labor market, education and armed conflict in Tajikistan. Policy Research Working Paper WPS 5738. World Bank.
- Shultz, J. M., Á. M. G. Ceballos, Z. Espinel, S. R. Oliveros, M. F. Fonseca, and L. J. H. Florez. 2014. Internal displacement in Colombia: Fifteen distinguishing features. *Disaster Health* 2(1): 13-24
- Silva, A. S. and R. Mace. 2015. Inter-group conflict and cooperation: Field experiments before, during and after sectarian riots in Northern Ireland. *Frontiers in Psychology* 6: 1790.
- Sinclair, M. 2002. *Planning education in and after emergencies*. Paris: UNESCO, International Institute for Educational Planning.
- Singh, K., U. Karunakara, G. Burnham, and H. Kenneth. 2005. Forced migration and under-five mortality: A comparison of refugees and hosts in north-western Uganda and southern Sudan. *European Journal of Population* 21: 247-270.
- Solow, R. M. 1956. A contribution to the theory of economic growth. *Quarterly Journal of Economics* 70(1): 65-94.
- Stewart, F. 2011. Horizontal inequalities as a cause of conflict: A review of CRISE findings. Centre for Research on Inequality, Human Security and Ethnicity, Number 1, January 2010. Oxford.
- Swee, E. 2009. On war and schooling attainment: The case of Bosnia and Herzegovina. HiCN Working Papers 57, Households in Conflict Network.
- Tarlow, P. E. 2006. Terrorism and tourism. In *Tourism in turbulent times: Towards safe experiences for visitors*, ed. J. Wilks, D. Pendergast and P. Leggat, 79-92. Advances in Tourism Research. Routledge. London.
- Tatem, Andrew J., Andres J. Garcia, Robert W. Snow, Abdisalan M. Noor, Andrea E. Gaughan, Marius Gilbert, and Catherine Linard. 2013. Millennium development health metrics: Where do Africa's children and women of childbearing age live? *Population Health Metrics* 11(1): 11.

- Tilly, Charles. 1985. War making and state making as organized crime. Chapter 5 in *Bringing the state back in*, ed. Peter B. Evans, Dietrich Rueschemeyer, and Theda Skocpol. Cambridge: Cambridge University Press. Pages 169-191.
- Tol, R. S., and S. Wagner. 2010. Climate change and violent conflict in Europe over the last millennium. *Climatic Change* 99(1-2): 65-79.
- Trivers, R. L., and D. E. Willard. 1973. Natural selection of parental ability to vary the sex ratio of offspring. *Science* 179(4068): 90-92.
- Udelsmann Rodrigues, Cristina. 2007. Youth in Angola: Keeping the pace towards modernity. *Cadernos de Estudos Africanos*, 18/19 | 2010, 165-179.
- UNDDR (United Nations Disarmament, Demobilization and Reintegration Resource Centre). 2005. What is DDR? Secretary-General, note to the General Assembly, A/C.5/59/31, May. http://unddr.org/what-is-ddr/introduction_1.aspx.
- United Nations. 2017a. Girls worst affected as conflict keeps more than 25 million children out of school – UNICEF. UN News, 24 April. <https://news.un.org/en/story/2017/04/555852>.
- United Nations. 2017b. World population prospects 2017. <https://esa.un.org/unpd/wpp/Download/Standard/Population/>.
- Urdal, H. 2004. The devil in the demographics: The effect of youth bulges on domestic armed conflict, 1950-2000. *Social Development Papers* 14. Washington, D.C.: World Bank.
- Urdal, H. 2006. A clash of generations? Youth bulges and political violence. *International Studies Quarterly* 50(3): 607-629.
- Valente, Christine. 2015. Civil conflict, gender-specific foetal loss and selection: A new test of the Trivers-Willard hypothesis. *Journal of Health Economics* 39: 31-50.
- Valente, Christine. 2016. What did the Maoists ever do for us? Education and marriage of women exposed to civil conflict in Nepal. World Bank Policy Research Paper.
- Verme, P., C. Gagliarano, C. Wieser, K. Hedlund, M. Petzoldt, and M. Santacroce. 2015. *The welfare of Syrian refugees: Evidence from Jordan and Lebanon*. World Bank. Washington, DC.
- Verwimp, P. 2012. Undernutrition, subsequent risk of mortality and civil war in Burundi. *Economics and Human Biology* 10(3): 221-231.
- Verwimp, P., and J. Van Bavel. 2005. Child survival and fertility of refugees in Rwanda. *European Journal of Population* 21: 271-290.
- Vieten, C., and J. Astin. 2008. Effects of a mindfulness-based intervention during pregnancy on prenatal stress and mood: Results of a pilot study. *Archives of Women's Mental Health* 11(1): 67-74.
- Voors, Maarten J., Eleonora E. M. Nillesen, Philip Verwimp, Erwin H. Bulte, Robert Lensink, and Daan P. Van Soest. 2012. Violent conflict and behavior: A field experiment in Burundi. *American Economic Review* 102(2): 941-964.
- Ware, H. 2005. Demography, migration and conflict in the Pacific. *Journal of Peace Research* 42(4): 435-454.
- Wessells, M. G. 2006. *Child soldiers: From violence to protection*. Cambridge, MA: Harvard University Press.

- K.P. West Jr, J. Katz, S.C. LeClerq, E.K. Pradhan, J.M. Tielsch, A. Sommer, R.P. Pokhrel, S.K. Khatri, S.R. Shrestha, M.R. Pandey . 1991. Efficacy of vitamin A in reducing preschool child mortality in Nepal. *The Lancet* 338(8759): 67-71.
- WFP (World Food Programme). 2013. Operations evaluations: Synthesis report. <http://documents.wfp.org/stellent/groups/public/documents/reports/wfp268837.pdf>.
- WFP. 2016. *Food Assistance for Assets (FFA) for zero hunger and resilient livelihoods: A programme guidance manual*. Rome, July.
- Wood, Elisabeth. 2006. Variation in sexual violence during war. *Politics and Society* 34(3): 307-342.
- Wood, Elisabeth. 2009. Armed groups and sexual violence: When is wartime rape rare? *Politics and Society* 37(1): 131-161.
- Wood, Elisabeth. 2010. Sexual violence during war: Leveraging variation toward change. In: *Collective crimes and international criminal justice: An interdisciplinary approach*, edited by Alette Smeulers and Elies van Sliedregt, 297–324. Antwerp: Intersentia.
- World Bank. 2010. MDRP: *Final report*. Washington, D.C.: World Bank.
- World Bank. 2013. *Understanding youth violence: Cases from Liberia and Sierra Leone*. Washington, D.C.: World Bank.
- World Bank. 2016. Rural population (% of total population). <https://data.worldbank.org/indicator/SP.RUR.TOTL.ZS>.
- Yom, S., and K. Sammour. 2017. Counterterrorism and youth radicalization in Jordan: Social and political dimensions. *CTC Sentinel* 10(4): 25-30.
- Young, H., A. Borrel, D. Holland, and P. Salama. 2004. Public nutrition in complex emergencies. *The Lancet* 364(9448): 1899-1909.
- Yusuf, M. 2011. A society on the precipice? Examining the prospects of youth radicalization in Pakistan. In *Reaping the dividend*. Woodrow Wilson Center, pp 76-112. Washington, DC

Table A1. The relationship with education level

Variable	(1) Burundi	(2) Guinea	(3) Kenya	(4) Liberia	(5) Sierra Leone	(6) Sudan	(7) Uganda	(8) Pooled
violence	-0.137 (0.773)	1.825 (1.843)	-0.251 (0.324)	-0.284 (0.647)	0.356 (0.881)	4.397** (2.047)	0.204 (0.445)	0.275 (0.292)
rural	-2.298*** (0.148)	-2.751*** (0.503)	-1.100*** (0.133)	-1.207** (0.543)	-1.765*** (0.359)	-0.00115 (0.773)	-1.474*** (0.171)	-1.439*** (0.126)
youth	-0.198 (0.283)	-0.233 (0.860)	0.0922 (0.245)	-0.377 (0.857)	0.736 (0.768)	-0.0990 (1.361)	0.335 (0.288)	0.188 (0.228)
rur*vio	0.186 (0.830)	-1.286 (2.783)	0.335 (0.433)	2.427*** (0.896)	-0.244 (1.367)	-3.468 (2.335)	-0.0586 (0.495)	0.734** (0.361)
you*vio	-0.246 (1.059)	-1.540 (3.220)	0.813 (0.717)	0.400 (1.479)	-0.145 (2.308)	-4.704 (4.149)	-0.379 (0.882)	-0.416 (0.629)
rur*you	1.127*** (0.313)	2.281* (1.253)	0.427 (0.307)	0.465 (1.209)	2.307** (0.967)	0.365 (1.697)	0.528 (0.326)	0.779*** (0.279)
rur*you*vio	-0.649 (1.248)	0.126 (5.074)	-1.376 (0.992)	-3.226 (2.141)	-1.350 (5.921)	5.341 (4.851)	-0.498 (1.019)	-1.055 (0.822)
gender	-0.588*** (0.0883)	-0.641 (0.417)	-0.423*** (0.110)	-0.145 (0.389)	-1.124*** (0.312)	0.452 (0.623)	-0.769*** (0.107)	-0.471*** (0.0958)
Constant	4.768*** (0.192)	5.204*** (0.754)	5.173*** (0.197)	4.731*** (0.693)	5.231*** (0.553)	5.329*** (1.112)	5.177*** (0.223)	3.811*** (0.235)
Observations	1,200	1,200	2,391	1,167	1,191	1,200	2,397	11,946
R-squared	0.232	0.035	0.042	0.013	0.047	0.006	0.072	0.072

Standard errors in parentheses. ***, $p < 0.01$, **, $p < 0.05$, *, $p < 0.1$.

Table A2. The relationship with employment

Variable	Burundi	Guinea	Kenya	Liberia	Sierra Leone	Sudan	Uganda	Pooled
rural	(0.171) -0.131*** (0.0328)	(0.0880) -0.124*** (0.0240)	(0.0576) -0.0833*** (0.0237)	(0.0430) -0.171*** (0.0361)	(0.0801) 0.0757** (0.0327)	(0.0912) -0.0179 (0.0344)	(0.0827) -0.211*** (0.0317)	(0.0250) -0.0953*** (0.0108)
youth	(0.0628) -0.140**	(0.0411) -0.181***	(0.0436) -0.264***	(0.0570) -0.228***	(0.0699) -0.147**	(0.0606) -0.255***	(0.0536) -0.288***	(0.0195) -0.208***
rur*vio	0.518*** (0.184)	-0.0778 (0.133)	0.112 (0.0768)	0.0877 (0.0596)	-0.0236 (0.124)	-0.0625 (0.104)	0.0327 (0.0920)	0.0264 (0.0309)
you*vio	0.315 (0.235)	-0.191 (0.154)	-0.127 (0.127)	0.145 (0.0984)	-0.239 (0.210)	0.338* (0.185)	0.477*** (0.164)	0.0839 (0.0539)
rur*you	0.140** (0.0694)	0.153** (0.0599)	0.0169 (0.0546)	0.174** (0.0804)	0.0494 (0.0880)	0.0590 (0.0756)	0.193*** (0.0605)	0.1000*** (0.0239)
rur*you*vio	-0.705** (0.277)	0.263 (0.242)	0.0430 (0.176)	-0.112 (0.142)	-0.148 (0.539)	0.0184 (0.216)	-0.460** (0.189)	-0.0448 (0.0704)
gender	-0.0508*** (0.0196)	-0.0612*** (0.0199)	-0.0782*** (0.0195)	-0.0605** (0.0259)	-0.109*** (0.0284)	-0.252*** (0.0277)	-0.119*** (0.0198)	-0.0989*** (0.00820)
Constant	0.324*** (0.0426)	0.331*** (0.0360)	0.832*** (0.0350)	0.479*** (0.0460)	0.537*** (0.0503)	0.904*** (0.0495)	0.821*** (0.0414)	0.388*** (0.0201)
Observations	1,200	1,200	2,391	1,167	1,191	1,200	2,397	11,946
R-squared	0.032	0.044	0.058	0.037	0.032	0.089	0.050	0.146

Standard errors in parentheses. ***, $p < 0.01$, **, $p < 0.05$, *, $p < 0.1$.

Table A3. The relationship with idleness

Variable	(1) Burundi	(2) Guinea	(3) Kenya	(4) Liberia	(5) Sierra Leone	(6) Sudan	(7) Uganda	(8) Pooled
violence	-0.103 (0.197)	-0.275** (0.117)	-0.0161 (0.0460)	-0.0302 (0.0440)	-0.167** (0.0783)	0.119 (0.0898)	-0.0140 (0.0819)	-0.0314 (0.0249)
rural	0.234*** (0.0376)	0.250*** (0.0319)	0.0843*** (0.0189)	0.0871** (0.0369)	0.0387 (0.0319)	0.0515 (0.0339)	0.229*** (0.0314)	0.139*** (0.0108)
youth	0.181** (0.0719)	0.185*** (0.0546)	0.0686** (0.0348)	0.207*** (0.0583)	0.0596 (0.0683)	0.197*** (0.0596)	0.103* (0.0531)	0.116*** (0.0194)
rur*vio	-0.122 (0.211)	0.131 (0.177)	-0.0234 (0.0613)	0.0314 (0.0609)	0.0760 (0.121)	-0.138 (0.102)	0.0550 (0.0912)	-0.00436 (0.0308)
you*vio	-0.233 (0.269)	0.619*** (0.204)	0.0239 (0.102)	-0.202** (0.101)	0.0763 (0.205)	-0.419** (0.182)	-0.136 (0.162)	-0.0648 (0.0537)
rur*you	-0.179** (0.0796)	-0.384*** (0.0795)	-0.0246 (0.0436)	-0.0956 (0.0823)	-0.000228 (0.0859)	-0.0650 (0.0744)	-0.105* (0.0600)	-0.102*** (0.0238)
rur*you*vio	0.484 (0.317)	-0.430 (0.322)	0.124 (0.141)	-0.0106 (0.146)	-0.361 (0.526)	0.271 (0.213)	0.133 (0.187)	0.0614 (0.0702)
gender	0.0965*** (0.0225)	0.147*** (0.0265)	0.0668*** (0.0156)	0.0534** (0.0265)	0.0905*** (0.0277)	0.174*** (0.0273)	0.0938*** (0.0196)	0.100*** (0.00817)
Constant	0.458*** (0.0488)	0.270*** (0.0478)	0.0168 (0.0279)	0.159*** (0.0471)	0.188*** (0.0492)	0.0412 (0.0487)	0.0564 (0.0410)	0.530*** (0.0200)
Observations	1,200	1,200	2,391	1,167	1,191	1,200	2,397	11,946
R-squared	0.058	0.089	0.023	0.030	0.021	0.049	0.039	0.190

Standard errors in parentheses. ***, $p < 0.01$, **, $p < 0.05$, *, $p < 0.1$.

Table A4. The relationship with education for youth

Variable	(1) Burundi	(2) Guinea	(3) Kenya	(4) Liberia	(5) Sierra Leone	(6) Sudan	(7) Uganda	(8) Pooled
violence	-0.625 (0.509)	1.591 (1.444)	-0.0941 (0.288)	-0.184 (0.582)	0.347 (0.822)	3.195* (1.778)	0.0908 (0.386)	0.179 (0.261)
rural	-1.958*** (0.127)	-2.745*** (0.430)	-0.994*** (0.120)	-1.108** (0.485)	-1.455*** (0.336)	0.0698 (0.686)	-1.367*** (0.146)	-1.328*** (0.113)
rur*vio	0.520 (0.572)	-0.656 (2.214)	0.0655 (0.388)	1.911** (0.813)	-0.569 (1.321)	-2.152 (2.042)	-0.100 (0.434)	0.563* (0.325)
age	-0.0326*** (0.00306)	0.0307*** (0.00286)	-0.00795*** (0.00178)	-0.00395 (0.00646)	-0.00365 (0.00224)	-0.00571 (0.00753)	-0.00267*** (0.000840)	0.00283*** (0.00100)
gender	-0.676*** (0.0866)	-0.479 (0.396)	-0.427*** (0.110)	-0.157 (0.389)	-0.921*** (0.312)	0.473 (0.621)	-0.730*** (0.107)	-0.436*** (0.0957)
Constant	5.968*** (0.215)	3.599*** (0.707)	5.472*** (0.203)	4.803*** (0.707)	5.184*** (0.559)	5.491*** (1.089)	5.306*** (0.210)	3.687*** (0.233)
Observations	1,200	1,200	2,391	1,167	1,191	1,200	2,397	11,946
R-squared	0.270	0.116	0.046	0.010	0.027	0.005	0.063	0.070

Standard errors in parentheses. ***, $p < 0.01$; **, $p < 0.05$; *, $p < 0.1$.

Table A5. The relationship with employment for youth

Variable	(1) Burundi	(2) Guinea	(3) Kenya	(4) Liberia	(5) Sierra Leone	(6) Sudan	(7) Uganda	(8) Pooled
violence	-0.125 (0.116)	0.0434 (0.0728)	-0.147*** (0.0525)	-0.0257 (0.0389)	-0.0307 (0.0744)	0.0589 (0.0805)	-0.00349 (0.0719)	-0.0302 (0.0225)
rural	-0.0939*** (0.0291)	-0.0818*** (0.0217)	-0.0766*** (0.0219)	-0.134*** (0.0324)	0.0832*** (0.0304)	-0.0173 (0.0311)	-0.144*** (0.0271)	-0.0681*** (0.00975)
rur*vio	0.312** (0.131)	0.0177 (0.112)	0.129* (0.0706)	0.0630 (0.0544)	0.00722 (0.120)	-0.0522 (0.0924)	-0.0880 (0.0808)	0.0160 (0.0280)
age	-0.000801 (0.000700)	-8.41e-05 (0.000144)	-0.000286 (0.000323)	0.000225 (0.000432)	9.90e-05 (0.000203)	-1.97e-05 (0.000341)	-0.000355** (0.000157)	-0.000194** (8.65e-05)
gender	-0.0548*** (0.0198)	-0.0662*** (0.0200)	-0.0850*** (0.0200)	-0.0651** (0.0260)	-0.118*** (0.0283)	-0.240*** (0.0281)	-0.124*** (0.0199)	-0.104*** (0.00824)
Constant	0.324*** (0.0492)	0.298*** (0.0357)	0.801*** (0.0369)	0.431*** (0.0473)	0.524*** (0.0506)	0.839*** (0.0493)	0.756*** (0.0391)	0.357*** (0.0200)
Observations	1,200	1,200	2,391	1,167	1,191	1,200	2,397	11,946
R-squared	0.023	0.023	0.014	0.022	0.022	0.059	0.035	0.134

Standard errors in parentheses. ***, $p < 0.01$; **, $p < 0.05$; *, $p < 0.1$.

Table A6. The relationship with idleness for youth

Variable	(1) Burundi	(2) Guinea	(3) Kenya	(4) Liberia	(5) Sierra Leone	(6) Sudan	(7) Uganda	(8) Pooled
violence	-0.153 (0.133)	-0.0491 (0.0970)	-0.00761 (0.0407)	-0.0714* (0.0398)	-0.157** (0.0723)	0.0290 (0.0785)	-0.0507 (0.0704)	-0.0453** (0.0222)
rural	0.180*** (0.0332)	0.183*** (0.0289)	0.0734*** (0.0170)	0.0654** (0.0332)	0.0390 (0.0296)	0.0475 (0.0303)	0.193*** (0.0266)	0.115*** (0.00965)
rur*vio	-0.0173 (0.149)	-0.0747 (0.149)	-0.00438 (0.0548)	0.0365 (0.0556)	0.0487 (0.116)	-0.0842 (0.0901)	0.0837 (0.0791)	0.00835 (0.0277)
age	0.00231*** (0.000799)	0.000531*** (0.000192)	0.00154*** (0.000251)	-0.000363 (0.000442)	-0.000309 (0.000197)	0.000588* (0.000332)	0.000702*** (0.000153)	0.000554*** (8.56e-05)
gender	0.107*** (0.0226)	0.142*** (0.0266)	0.0708*** (0.0155)	0.0576** (0.0266)	0.0942*** (0.0275)	0.163*** (0.0274)	0.0926*** (0.0195)	0.102*** (0.00815)
Constant	0.406*** (0.0561)	0.300*** (0.0475)	-0.0293 (0.0286)	0.208*** (0.0484)	0.204*** (0.0492)	0.0741 (0.0481)	0.0642* (0.0383)	0.533*** (0.0198)
Observations	1,200	1,200	2,391	1,167	1,191	1,200	2,397	11,946
R-squared	0.057	0.064	0.033	0.015	0.021	0.035	0.046	0.190

Standard errors in parentheses. ***, $p < 0.01$; **, $p < 0.05$; *, $p < 0.1$.

List of RDR 2019 Background Papers published in IFAD Research Series

- **The demography of rural youth in developing countries**
By Guy Stecklov, Ashira Menashe-Oren
- **What drives rural youth welfare? The role of spatial, economic, and household factors**
By Aslihan Arslan, David Tschirley, Eva-Maria Egger
- **Youth agrifood system employment in developing countries: a gender-differentiated spatial approach**
By Michael Dolislager, Thomas Reardon, Aslihan Arslan, Louise Fox, Saweda Liverpool-Tasie, Christine Sauer, David Tschirley
- **Gender, rural youth and structural transformation: Evidence to inform innovative youth programming**
By Cheryl Doss, Jessica Heckert, Emily Myers, Audrey Pereira, Agnes Quisumbing
- **Rural outh inclusion, empowerment and participation**
By Carolina Trivelli, Jorge Morel
- **Economic participation of rural youth: what matters?**
By Louise Fox
- **Landscapes of rural youth opportunity**
By James Sumberg, Jordan Chamberlin, Justin Flynn, Dominic Glover and Vicky Johnson
- **Rural youth, today and tomorrow**
By Ben White
- **Climate and jobs for rural young people**
By Karen Brooks, Shahnala Dunston, Keith Wiebe, Channing Arndt, Faaiga Hartley and Richard Robertson
- **Rural transformation and the double burden of malnutrition among rural youth in developing countries**
By Suneetha Kadiyala, Elisabetta Aurino, Cristina Cirillo, Chittur S. Srinivasan and Giacomo Zanella
- **Inclusive finance and rural youth**
By Arianna Gasparri, Laura Munoz
- **Information and communication technologies and rural youth**
By Jenny Aker
- **Youth access to land, migration and employment opportunities: evidence from sub-Saharan Africa**
By Felix Kwame Yeboah, Thomas S. Jayne, Milu Muyanga and Jordan Chamberlin
- **Rural youth in the context of fragility and conflict**
By Ghassan Baliki, Tilman Brück (Team Leader), Neil T. N. Ferguson and Wolfgang Stojetz
- **Rural youth: determinants of migration throughout the world**
By Alan de Brauw
- **The Impact of Migrants' Remittances and Investment on Rural Youth**
By Manuel Orozco, Mariellen Jewers
- **Unlocking the potential of rural youth: the role of policies and institutions**
By Lauren Phillips, Paola Pereznieto
- **Investing in rural youth in the Asia and the Pacific region**
By Roehlano Briones

- **The rural youth situation in Latin America and the Caribbean**
By Maia Guiskin, Pablo Yanes, Miguel del Castillo Negrete
- **Investing in rural youth in the Near East, North Africa, Europe and Central Asia**
By Nader Kabbani
- **The narrative on rural youth and economic opportunities in Africa: Facts, myths and gaps**
By Athur Mabiso, Rui Benfica

[All publications in the IFAD Research Series can be found at:](https://www.ifad.org/en/web/knowledge/series?mode=search&catSeries=39130673)

<https://www.ifad.org/en/web/knowledge/series?mode=search&catSeries=39130673>



International Fund for Agricultural Development

Via Paolo di Dono, 44 - 00142 Rome, Italy

Tel: +39 06 54591 - Fax: +39 06 5043463

Email: ifad@ifad.org

www.ifad.org

 facebook.com/ifad

 instagram.com/ifadnews

 linkedin.com/company/ifad

 twitter.com/ifad

 youtube.com/user/ifadTV

ISBN 978-92-9072-971-6



9 789290 729716

