

**BMGF Human Capital  
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**Report of Contributions**

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## Accumulation du capital humain et gap de productivité genre dans le secteur agricole au Burkina Faso

### Résumé

L'objectif général de l'étude est d'analyser le rôle de l'accumulation du capital humain dans l'écart de productivité agricole entre les hommes et les femmes au Burkina Faso. Les données qui ont servi à l'analyse sont des données de panel niveau ménage couvrant la période 2015-2019 issues de l'Enquête Permanente Agricole (EPA). Nous avons appliqué la méthode de décomposition de Blinder-Oaxaca pour déterminer l'ampleur de l'écart de productivité agricole entre les hommes et les femmes et identifier les variables qui expliquent cet écart. Les résultats obtenus indiquent l'existence d'une différence de productivité agricole entre les hommes et les femmes estimée à 111,50 %. Cet écart est expliqué à 56,55 % par l'effet de dotation c'est-à-dire par des facteurs observables. Le reste de l'écart (43,45 %) reste inexpliquée et est dû aux désavantages structurels des femmes. Parmi les facteurs explicatifs de cet écart, il ressort que l'accumulation du capital humain contribue à expliquer les différences de productivité agricole genre au Burkina Faso. Notamment, l'appartenance à une organisation paysanne et l'éducation primaire affecte significativement l'écart de productivité, au contraire du niveau d'éducation secondaire et de l'encadrement agricole (services de vulgarisation) dont les effets ne sont pas statistiquement significatifs. En termes d'implication de politiques, les gouvernements devraient améliorer l'accès des femmes à des ressources similaires à celles des hommes y compris renforcer les politiques éducatives en intégrant une approche genre. Il est également indispensable d'améliorer l'accumulation du capital humain sur le tas par le renforcement des services de vulgarisation agricoles adaptés aux besoins des agriculteurs, aussi par des incitations d'adhésion dans les organisations paysannes au profit des femmes.

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**Session Classification:** Accumulation du capital humain et gap de productivité genre dans le secteur agricole au Burkina Faso

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## DETERMINANTS OF HUMAN CAPITAL FORMATION IN KENYA: A STUDY ON KENYAN COUNTIES

Human capital is an essential driver of sustainable economic growth and poverty reduction and many nations commit to investment in human capital accumulation. Since independence Kenya's governments have implemented various policies and programs aimed at promoting social economic development, reducing poverty and ensuring human capital development. As a result Kenya has made significant progress in human capital development. In Kenya, counties need new ways to keep their competitive advantage in face of present challenges such as globalization and technological progresses. People and their skills constitute valuable resources for their county and provides the edge to progress its performance or even outpace other counties. Thus, it is indispensable to attempt and comprehend what determines the accumulation of human capital in a county in order to help improve the existing human capital stock. The human capital index (HCI) for Kenya has improved from 52 percent in 2018 to 55 percent in 2020 before COVID-19 pandemic. Though this is higher than the average for Sub-Saharan Africa region and Lower middle income countries it is however, lower than the global average which is 56 percent. This shows that a child born in Kenya in 2020 before Covid-19 pandemic struck could expect to attain an average of 55 percent of his/her potential productivity as a future worker. Hence, need to invest more on education and health the key components of the human capital index. In addition, this national average could masks considerable variation across counties in Kenya as reflected by various education and health outcomes key components of HCI. The object of this study was to analyze the determinants of human capital development in Kenya using a cross-sectional data from all 47 counties in Kenya for 2013 and 2019. The data was collected from published government documents such as County profiles 2013 and the Kenya Population and Housing Census 2019. The study constructed a human capital index, based on education, Health and innovation/creativity. This allowed us to capture broader aspects of effective labour force. The cross-sectional regressions results shown that the key determinants of human capital development in Kenya with the biggest effect was Gross County Product Per Capital, population density, out of pocket health expenditure, infrastructure expenditure, health worker density and proportion of primary schools connected to electricity. The policy implication of these findings is that for counties and Kenya to accumulate human capital the governments should invest on improving health workers density by employing more health workers.

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## Early-Life climate shock and intergenerational mobility

This paper explores the link between intergenerational education mobility and climate shocks experienced by children at a young age. Although many studies have looked at the impact of shocks such as drought, civil war, and rainfall on various health outcomes, little research has been done on how climatic shocks affect intergenerational mobility. Our findings show a strong correlation between the education of parents and their children, and that this correlation is affected by climate-related events that occur in a child's early years. Specifically, more rainfall leads to less intergenerational persistence, indicating that increased precipitation results in an increase in household income that can improve households' investment in children's education. Conversely, drought (dry season) significantly increases intergenerational education persistence, and this effect is gender-specific. We note a statistically significant interaction between parents' schooling and climate shocks experienced by their sons, indicating that climate shocks experienced during childhood reinforce intergenerational educational persistence between parents and their sons.

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**Session Classification:** Early-Life Drought Shocks and Intergenerational Persistence

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## Examining Human Capital Dynamics and Determinants among Rural Ethiopian Crop Producers and Pastoralists: A Comparative Analysis

This study explores human capital dynamics in Ethiopia by comparing crop producers and pastoralists, using data from the Living Standards Measurement Study (LSMS) for 2015 and 2017. The analysis reveals that crop producers average 3.82 years of education versus 3.27 years for pastoralists. Although pastoralists spend more on education per capita (0.41 thousand Birr vs. 0.30 thousand Birr), this difference is not statistically significant, possibly due to higher education costs and limited access in pastoralist regions. Health metrics show improvements linked to income increases: crop producers' absenteeism due to health issues dropped from 9.75 to 3.38 days, while pastoralists' decreased from 10.43 to 5.06 days. Income analysis reveals that pastoralists earn more from livestock (7.07 thousand Birr) compared to crop producers (0.97 thousand Birr), but crop producers have higher income from crops (12.01 thousand Birr vs. 7.23 thousand Birr), resulting in a higher total income per capita for crop producers (4.36 thousand Birr) compared to pastoralists (3.30 thousand Birr). This disparity is attributed to technological advancements and better market access for crop producers. Nutritional indicators also show significant disparities: pastoralist children have poorer outcomes, with higher rates of stunting and underweight compared to crop producers. Despite improvements, high levels of malnutrition persist in pastoralist communities. The fixed effects model highlights that human capital (coefficient of 0.0945) and age (coefficient of 0.307) positively impact rural income. Household size has a moderate positive effect (coefficient of 0.0551), and livestock unit is strongly associated with rural income (coefficient of 0.0466). However, the interaction term shows a significant negative effect, suggesting combined variable influences can diminish rural income. The random effects model indicates a significant negative impact of household size (coefficient of -0.0616) and a positive effect of the log of income (coefficient of 0.037) on human capital. The study concludes that targeted interventions are needed to address these disparities. For pastoralists, improving educational access, integrating traditional and modern education, and investing in healthcare and infrastructure are essential. For crop producers, continued investment in agricultural education and technology is crucial. A comprehensive strategy to enhance healthcare, education, infrastructure, and economic stability is vital for equitable and sustainable development across Ethiopia's rural communities.

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**Session Classification:** Human Capital Dynamics, Heterogeneity, and Its Determinants in Rural Ethiopia: Comparative Analysis from Crop Producers and Pastoralist