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PEGNet Policy Brief, No. 12/2017

Provided in Cooperation with:

Kiel Institute for the World Economy – Leibniz Center for Research on Global Economic Challenges

Suggested Citation: Efobi, Uchenna; Orkoh, Emmanuel (2017) : Assessing youth development in Sub-Saharan Africa with a multidimensional index, PEGNet Policy Brief, No. 12/2017, Kiel Institute for the World Economy (IfW), Poverty Reduction, Equity and Growth Network (PEGNet), Kiel

This Version is available at:

<http://hdl.handle.net/10419/176694>

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Assessing Youth Development in Sub-Saharan Africa with a Multidimensional Index

By Uchenna Efobi and Emmanuel Orkoh

Key Points

- The commitment of African leaders to confronting youth development through policies aimed at increasing resource mobilization for tackling youth unemployment and underemployment is a laudable effort.
- However, the disregard of these policies for youths' standards of living, health, wealth and empowerment can lead to the vicious trap of a 'one-size-fits-all' policy syndrome.
- A multidimensional measure of youth development and its relationship with household income with particular attention to gender and spatial distribution of youths is critical for addressing the potential negative socioeconomic consequences of Africa's growing youth population.

The youth population (aged 15-24) in sub-Saharan Africa (SSA) is growing rapidly to the extent that in 2015, 226 million youths were estimated to be living on the continent. Youths in Africa currently account for 19 per cent of the global youth population. It is further projected that by 2030, Africa's youth population will increase by 42 per cent, and by 2055 it will more than double (United Nations, 2015). This rapid growth of the population is expected to limit the economic opportunities available for youths in Africa. This could further result in negative socioeconomic consequences such as the reduced contribution of youths to national economic progress, economic exclusion, and an increase in anti-social activities such as crime, rebel activities and armed conflict.

In response to these challenges and their expected implications, African leaders have committed themselves to confronting youth development issues by increasing policy actions aimed at raising resource mobilization for tackling youth unemployment and underemployment. The 2009-2018 "African Youth Decade" declaration of African leaders is an important example of such policy efforts towards improving the stake of youths in Africa. The African Youth Decade Plan of Action 2009-2018 is built on three pillars, namely: 1) ensuring rights-based approaches to youth development through meaningful participation and representation; 2) consolidating investments that target youths' socio-economic empowerment; and 3) mainstreaming youths' perspectives in the efforts to achieve broad development goals and priorities (African Union, 2011).

Despite these laudable efforts, one important shortcoming is that youth development has only been considered from the unemployment perspective and does not consider other important issues. For instance, while considering youth employment is important, the disregard for youths' standards of living, health, wealth and empowerment can lead to the vicious trap of a 'one-size-fits-all' policy syndrome. That is, thinking that curbing unemployment will be a panacea for youth development, while neglecting other important issues, may not be helpful and can even counteract the governments' efforts to tackle the challenges that confront youths.

This policy brief proposes a multidimensional measure of youth development, and sheds new light on its relationship with household income. Particular attention is directed at the gender and spatial distribution of youths, and the income of the household. This enables us to discuss the policy implications of our analysis. More so, income, gender and location of households/individuals have remained an important factor to be considered in policy design because the bulk of inequalities in developing countries are distributed along these lines (see Venter, Vokolkova, and Michalek, 2007).

The need for a multidimensional measure of youth development

We introduce an intuitive approach to measuring youth development based on four dimensions that are based on the United Nations Youth Development Indicators. We construct a multidimensional measure for four countries in SSA using the latest waves of survey data from the World Bank's Living

- Standards Measurement Study (LSMS-ISA) i.e. Ethiopia – 2015/2016; Tanzania – 2014/2015; and Nigeria 2015/2016; Malawi – 2013/2014.
- Our approach also uses counting methodology

Table 1: The multidimensional youth development index and its weighting structure

Dimensions	Indicator	Measurement	Weights
Education	Years of schooling	Youth have more than 1 year of schooling.	1/8= 0.125
	Ability to read and write	Youth can read and write in English.	1/8 = 0.125
Health	Nutrition	Youth is not underweight (i.e. BMI >18.5kg/m2).	1/8 =0.125
	Infectious disease	Youth do not have or suffer from infectious disease or severe injury in survey period	1/8 =0.125
Living Standards	Improved sanitation	Youth do not engage in open defecation and have access to hygiene toilet facility.	1/16=0.063
	Flooring	Youth do not have dirt, clay, sand or dung floor, or floor made of thatch.	1/16=0.063
	Cooking fuel	Youth do not cook with dung, wood, or coal.	1/16=0.063
	Safe drinking water	Youth have access to safe drinking water during the survey period.	1/16=0.063
Wealth	Land	Youth own economic resources like land	1/16=0.063
	Saving habit	Youth have formal or informal saving schemes for savings.	1/16=0.063
	Credit facility	Youth have access to credit facility (both formal and informal).	1/16=0.063
	Employment	Youth have access to employment and but are unable to get employed	1/16=0.063

Sources: Authors own

- for categorical indicators, which allows for an effective analysis of the contribution of each dimension to our index. This makes it possible to identify the dimension that contributes the most (or least) to youth development for each country. Hence, our index provides a comprehensive approach for measuring youth development in Africa since it can be applied to real world data and policy, and because it does not concentrate on only one indicator/measure.

In spite of the numerous advantages of our index, one important challenge that confronts it is the weighting system to be applied in deriving the composite index. Atkinson et al. (2002) has observed that equal weighting for social indicators is intuitively appealing because it assumes that each component of the composite index is equally important. We use an index of equal weighted dimensions for the following reasons: First, we assume that each indicator in our index (see Table 1) has an equal intrinsic value addition to the overall development of the youths as noted in the 2012 United Nations Youth Development Report (see United Nations, 2012). Second, our index is comparable across countries since we are considering youth development in countries within similar regions that have fairly homogeneous experiences and expectations.

Alkire and Foster (2011) is one of the first attempts to compute a cross-country multidimensional development outcome (for household poverty, to be precise). Our approach is similar to that of Alkire and Foster (2011) in the sense that we have 13 indicators that are broadly categorized into four dimensions, namely: education, health,

living standards, and wealth. Our classification is based on the United Nations’ (2012) youth development indicators. We assign weights to each dimension to create an index of equal weighted dimensions, where all indicators within each dimension are also given equal weights (i.e. equal nested weights). The weights for each of the dimensions are one fourth each, which is also similar to the weights assigned to each of the indicators – depending on the number of indicators. Table 1 provides a detailed description of the dimensions and their sub-indicators as well as the weighting process. Hence, the index ranges from 0 (low development) to 1 (high development).

The multidimensional index

We used basic descriptive analysis (mean) and local polynomial regression analysis to understand the distribution of the youth development index across the sampled countries (Ethiopia, Malawi, Nigeria, and Tanzania), and to estimate the relationships across gender and geographical locations. It is important to note that unlike the Alkire and Foster index, we do not have a benchmark for a country that has achieved an ideal level of youth development. This is because our index is only based on estimations from four countries. The index (across gender) is presented in Table 2; youth development across the sampled countries is generally low at 0.377. While Nigeria and Tanzania respectively record the highest average index of 0.423 and 0.418, Malawi and Ethiopia record an average index score of 0.362 and 0.387 respectively. Comparing the index across gender, we observe only slight disparity. For instance, considering the index as a composite value, we find significant differences across gender for Tanzania and Malawi where males score higher than female youths. We also find a significant difference across gender for the education dimension in Malawi and when we aggregate the countries. For the health dimension, we see that the difference in the score varies significantly across gender for Tanzania, Malawi and the aggregated countries. Significant differences also exist across gender in the wealth dimension for Tanzania.

For the individual dimensions of the index, Nigeria and Tanzania perform fairly high with an index of over half of the total score for education (0.25), while the statistics for Ethiopia and Malawi were 0.129 and 0.137, respectively. These statistics reflect the state of education in the respective countries. The report of the Ministry of Education and Vocational Training (2015) of Tanzania and



Table 2: The Youth Development Index across some selected countries in SSA

Country	Gender	Youth Development (Σ)	Education -0.25	Health -0.25	Living Standard -0.25	Wealth -0.25
Ethiopia	All	0.362	0.129	0.112	0.062	0.06
	Male	0.366*	0.13	0.119	0.063	0.06
	Female	0.359*	0.127	0.111	0.061	0.059
Nigeria	All	0.423	0.165	0.109	0.079	0.074
	Male	0.424	0.166	0.108	0.077	0.075
	Female	0.422	0.163	0.108	0.074	0.074
Tanzania	All	0.418	0.166	0.128	0.057	0.068
	Male	0.437***	0.167	0.148***	0.057	0.069**
	Female	0.399***	0.165	0.106***	0.056	0.066**
Malawi	All	0.387	0.137	0.102	0.045	0.102
	Male	0.396***	0.144***	0.104**	0.045	0.103
	Female	0.377***	0.130***	0.101**	0.044	0.101
All Countries	All	0.377	0.141	0.106	0.058	0.072
	Male	0.396	0.151***	0.115***	0.061	0.077**
	Female	0.397	0.145***	0.108***	0.06	0.075**

Note: the superscripts *** and ** are the significant levels at 1 and 5 percent for the t-test

Sources: Authors own

the National Bureau of Statistics (2012) of Nigeria shows policy actions to improve youth education and school attendance rates. For instance, literacy rate in Tanzania for individuals 15 years and above was 78 percent; while for Nigeria, 64.1 per cent of youths age 15 - 19 were in school. Meanwhile, Ethiopia has the world's third-largest out-of-school population, and around a third of Malawian children do not even manage to reach Grade 4 (see UNESCO, 2014; OECD, 2017). These stylized facts validate the low educational outcome of youths that we find in our index.

Poor living standards, wealth and health outcomes among youth are pervasive in all the sampled countries. Considering the living standards, it is evident that most youths lack access to basic toilet facilities, safe sources of drinking water, good flooring in their homes, and sustainable energy for cooking. In addition, most youths were either unemployed, did not have access to credit facilities, did not save, or were deprived of economic resources like land.

These statistics call for further efforts by policy makers to consider youth development in SSA as an urgent policy matter. However, to further direct our analysis and conclusion, we now focus on household income as a key policy issue that can be taken up for youth development. The motivation for considering raising household income as an important policy instrument stems from the fact that most dimensions of youth development are direct outcomes of household income.

The results from a local polynomial regression across gender and geographical

location of youths show a positive and significant relationship between household income and the multidimensional indicator of youth development (presented in Figure 1). Although we observe a positive relationship in Figure 1, the results suggest that improvements in household income can have a higher effect on advancing the development of male youths as compared to their female counterparts. Regarding the location of youths, we find that increasing household income will have a higher impact on urban youths as compared to rural youths. These results are to be expected considering that based on cultural and household idiosyncrasies, there are gender and rural-urban biases that undermine youth development (Blum, 2007; Kwabena and Mwangi, 2013).

The consequences of household income for youth development

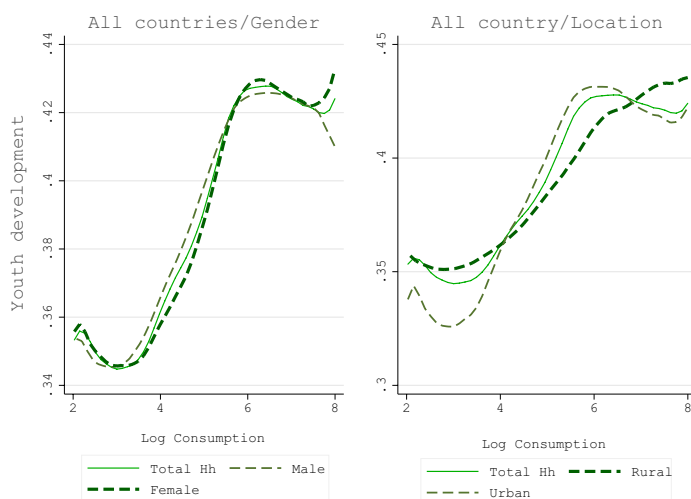
The role of household income in enhancing youth development cannot be over emphasized. It is well established in the literature that household poverty aggravates poor youth outcomes such as illiteracy, bad health and living conditions, among others (e.g. Blum, 2007). These poor outcomes are consequently linked to other social vices such as crime among youths. For instance, the rising youth engagement in criminal activities in some fragile regions like northern Nigeria, Somalia, northern Kenya, and even Liberia and Sierra Leone (during their civil wars) have been traced to the feeling of disenfranchisement and rising household poverty (Maxted, 2003; Hegre, Ostby, and Raleigh, 2009). Such conditions put youths in a vulnerable situation and make it easy to lure them for tribal, cultural, religious, and politically motivated violence and rebellion.

Although not reported, we find that specific country heterogeneity for this relationship exists. For example, while we find that household income matter for Ethiopia and Malawi, we do not find compelling evidence to support this argument for Nigeria and Tanzania.

Key policy implications

The aim of this policy brief is to propose a multidimensional measure of youth development which may be used as the basis for the design and implementation of policies directed towards youth development in SSA. We shed new light on the different dimensions of youth development in SSA, while taking into consideration the differences across gender and geographical locations of households. We further estimate the relationship between our

Figure 1: Youth Development and Household income (across Gender and Location)



Sources: Authors own

measure of youth development and household income. The results of the analysis raise

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