Big Win Philanthropy

COUNCIL OF GOVERNORS

Making Data Systems Work for Counties:

An Assessment of Data Systems to Support Investments in Children and Youth in Counties in Kenya

Table of **Contents**

04 Foreword by the Chairman, Council of Governors

06 Message from the Chair, Committee on Education, Gender, Youth, Children, Sports, Culture and Social Services- COG

08 Message from the Chair and President, Big Win Philanthropy

10 Acknowledgments

11 Abbreviations

12 Introduction

18 County Data Mapping Assessment

21 Key Findings from the County Data Assessment

22 Priority Indicators for Tracking Investments in Youth and Children at County Level

23 Health Indicators

28 Education Indicators

28 Economic Indicators

29 Governance Indicators

37 Considerations for a Delivery and Tracking Tool for Investments in Youth and Children at County Level

38 Key Considerations for a County Data System

39 Recommendations

41 Conclusion

43 Annexes

Foreword by the Chairman
Council of Governors

H.E. Governor Peter Munya

Chairman,
Council Of Governors

2015-2017

Kenya's population is largely youthful – 70% of its people are younger than age 35 – and as a result, it represents one of the country's greatest assets. Savvy investments in human capital and policy decisions will determine the developmental trajectory of Kenya for the next 50 years, and in so doing, position the country to become a stronger, more unified and influential global player and partner, as intended in Vision 2030.

Given the devolved system of government, human capital investments must be strategically designed to work within that devolved system. The Council of Governors is convinced that it is the mandate of county governments to strengthen performance and management of human capital investments in order to improve the lives of our children and youth, ultimately maximising demographic dividends for long-term economic growth.

The goal of devolution in Kenya is to make social service provision more efficient by matching public policies with the needs and desires of local constituencies. As such,

devolution kick started a dramatic transformation of the Kenyan state through new accountable and transparent institutions, inclusive approaches to governance, and a firm focus on equitable service delivery for all Kenyans. To realize the country's demographic dividend potential, coordinated efforts are needed at both national and county levels.

The ability of the Council of Governors (COG) to play its critical role in coordinating and monitoring could be hampered if relevant, timely and accurate data on investments in children and youth – and the impact of these investments – is unavailable.

> "My tenure as the Chair of the COG has been underpinned by a firm belief that county governments are drivers of the country's economic development. We welcome partnerships that strengthen our ability to prioritise and track investments in Kenya's youth and children, who will power the country's march towards Vision2030" **H.E. Governor Peter Munya**

It is with this in mind that the counties, through the COG, entered into a strategic partnership with Big Win Philanthropy to address the most pressing issues of building systems to generate, analyse, and use data in order to support decision-making. In the long term, this partnership will improve the capacity and effectiveness of counties to consolidate and achieve 'big wins' in human capital investments for children and youth, directly supporting Kenya's efforts to achieve a demographic dividend.

This report and its findings will go a long way to support the COG, as custodians of devolution, to initiate conversations on human capital investments and support counties to strengthen their data systems and their use of data as an enabler for policy and decision-making. While the initiative will reinforce strategies for implementing the Performance Management Framework (PMF) for County Governments, the report will guide the next generation of Excellency Governors and National Government to further the mandate of the Council and strengthen the devolution agenda in Kenya.

Message from the Chair

Committee on Education, Gender, Youth, Children, Sports, Culture & Social Services, Council of Governors

H.E Governor Prof. Paul Chepkwony'

Chairman,
Committee On Committee On Education, Gender, Youth, Children, Sports, Culture And Social Services

2015-2017

People often argue whether population size and rate of growth are a curse or a blessing for a country's economic development. What is most important is actually not the size of the population, but rather how it is structured, and how fast it grows.

Kenya is aptly described as a country "on the path to a population age structure that may enable it to achieve a demographic dividend" - the potential economic growth that a country can experience following a decline in birth and death rates, leading to a larger proportion of working-age adults and fewer dependents, such as young people and the elderly.

So how can Kenya's counties best position themselves to transform the country's youth bulge into a demographic dividend?

Counties need to immediately make sustained, substantial investments in different areas, such as child health and nutrition, education and technical skills and enact sound economic policies that will facilitate creation of high quality jobs. Functions such as health, agriculture, pre-primary education, youth polytechnics and vocational training centers have all devolved to county governments, and investments in these areas are critical for the development of the high quality human capital needed to achieve sustained economic development in Kenya.

While county governments are committed to making the right investment choices to improve their human capital, these choices can sometimes be hindered by inadequate data. More often than not, counties lack relevant, timely and accurate

data for priority setting, measuring progress and identifying bottlenecks in implementation to be addressed for better results. County governments need to know which sectors to invest in and which interventions to prioritize. Although this is a problem at the national level, it affects counties to a much greater extent. Socio-economic inequalities and disparities, as well as geographical differences across the 47 counties in Kenya, demand county-specific information to drive localized decision-making on the appropriate investments that need to be made by both the national and county governments.

Much of the work done by counties remains hidden due to a lack of county-level data. Data requests from COG Secretariat are often not met, leaving many counties to make decisions without the necessary localized information.

To this end, the COG mandated that the Committee on Education, Gender, Youth, Children, Sports, Culture and Social Services, in partnership with Big Win Philanthropy, to map the data landscape at county and national levels. This mapping established what kind of data currently exists and which resources are needed to ensure that the right data is available to the decision-makers in order to achieve big wins for counties' youth and children. This partnership serves as a unique example of how the COG can be of greater value to the counties and lays the foundation for putting in place the ideal data management systems to enable them deliver results. This report identifies six key considerations for counties to take into account when implementing demographic dividend initiatives, namely:

1. **Optimal use of critical skills** to assist all counties with implementation of policies aligned to the demographic dividend;
2. **Streamline institutional frameworks** for optimal data use;
3. **Improve use of existing data systems** and the data counties generate;
4. **Upgrade technology** to improve county data management and processes, including data capture and Monitoring and Evaluation (M&E);
5. **Move beyond M&E and data dissemination to decision support, performance management**, accountability and learning for adaptive programming;
6. **Mobilize government and donor technical, financial and other support** for counties aimed at delivery.

The findings of this report will provide us with a greater understanding of the data systems and processes needed by the counties and COG to drive delivery of results around the demographic dividend as an organizing framework. This will set the foundation for effective data systems in the long term, ensuring county-specific data allows for tracking the progress and impact of investment decisions, the sharing of best practice, and ultimately focused COG support to counties.

Message from the Chair & President
Big Win Philanthropy

Jamie Cooper

Chair and President,
Big Win Philanthropy

In 2016, Big Win Philanthropy entered into a strategic partnership with the Council of Governors (COG) to support county governments to systematically track and upgrade the impact of investments in children and youth. Now is the key window for Kenya to galvanize around its human capital development investments in the face of a rapidly narrowing window for making the right policy choices that will set Kenya on the path towards achieving its demographic dividend.

At Big Win Philanthropy, we believe that:

When leaders of emerging economies chart a course for their countries' prosperity

When different sectors collaborate to invest in a youthful population

When children's lives are improved today while growth and stability are built for tomorrow

When the solutions deliver transformational change

That's a Big Win.

Reaping a demographic dividend necessitates smart investments in public and social policies along with quality implementation to assure that the emerging generation of youth that will soon drive Kenya's economy are fully equipped to contribute productively. This effort aims to ensure that County Governors can track and act in a timely fashion to ensure that children are getting the nutritional, educational and other interventions needed.

This report provides the findings of this first phase of this partnership. It highlights what data is currently being collected by counties, assesses its reliability and makes recommendations for augmenting and organizing the data in order to be a key tool for Governors to monitor and drive progress forward. At Big Win Philanthropy, we believe that investing in children and young people will enable countries to maximize demographic dividends for long-term economic growth and that there is no better time than now for Kenya to put in place the right systems to enjoy the long-term economic prize in the form of a demographic dividend.

Acknowledgements

The Council of Governors (COG) appreciates the collaboration of all the counties that were involved in this report namely: Kakamega, Kisumu, Kitui, Makueni, Meru, Trans Nzoia, Turkana, Vihiga and Wajir Counties. We also appreciate the participation of all the other 31 counties who sent and facilitated the participation of their officers during consultation meetings throughout the process of developing this report. These are: Baringo, Bomet, Bungoma, Busia, Elgeyo Marakwet, Embu, Homa Bay, Isiolo, Kiambu, Kilifi, Kirinyaga, Kisii, Kisumu, Kitui, Laikipia , Makueni, Meru, Migori, Muranga, Narok, Nyamira, Nyandarua, Nyeri, Siaya, Taita Taveta, Tana River, Tharaka Nithi, Trans Nzoia, Turkana, Uasin Gishu, Wajir.

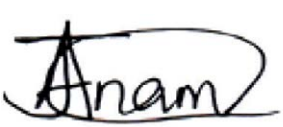
At the national level, we would like to thank officials, who participated in the consultation, in the Ministry of Health, the Ministry of Education, Science and Technology, the National Council for Population and Development (NCPD), the Population Studies and Research Institute (University of Nairobi), the Kenya Medical Research Institute (KEMRI), the Kenya National Bureau of Statistics (KNBS) and the National Gender and Equality Commission (NGEC). These institutions truly demonstrated the spirit of intergovernmental collaboration.

We would like to specifically extend our sincere gratitude to H.E. Governor Prof. Paul Chepkwony' who is the CoG Chairperson for the Committee on Education, Gender, Youth, Children, Sports, Culture and Social Services for championing the agenda on demographic dividend and providing guidance to the team throughout the process.

Furthermore, I would like to acknowledge the CoG Secretariat that was involved from the beginning, coordinating meetings and consultations and providing valuable support towards the completion of this phase of the project.

This report would not have been possible without the support of Big Win Philanthropy and their technical partner, the Africa Population Research Center (APHRC).

Finally, we would like to appreciate the leadership of the Council of Governors under the Chairmanship of H.E. Governor Peter Munya for supporting this process.



Ms. Jacqueline Mogeni
Chief Executive Officer
Council Of Governors

Abbreviations

African Population and Health Research Center	**APHRC**
Big Win Philanthropy	**BWP**
Community Health Volunteers	**CHVs**
Council of Governors	**COG**
County Government Act, 2012	**CGA 2012**
District Health Information Software	**DHIS**
Early Childhood Development Education	**ECDE**
Education Management Information System	**EMIS**
Future Cities Africa Knowledge Platform	**FCA - KP**
Information Communications and Technology	**ICT**
Kenya National Bureau of Statistics	**KNBS**
Kenya Demographic and Health Survey	**KDHS**
National Gender and Equality Commission	**NGEC**
National Commission for Population and Development	**NCPD**
Monitoring and Evaluation	**M&E**
Monitoring, Evaluation and Learning	**MEL**
Multiple Indicator Cluster Survey	**MICS**
Payment for Results	**PfR**
Performance Management	**PM**
Service Availability and Readiness Assessment	**SARA**
Sustainable Development Goals	**SDGs**

Introduction

Kenya's new and ambitious devolved system of government constitutes a big shift in policy decision processes, with counties now taking a pivotal role in driving public investment decisions. While County Governments. are committed to making the right investment choices to improve human capital, these choices can sometimes be hindered by a lack of adequate county-specific information. Specifically, there is need for strong data systems to inform human capital investment decisions in children and youth, which represent 70% of Kenya's population and therefore constitute Kenya's greatest asset.

In light of this, the Council of Governors (COG) entered into a strategic partnership with Big Win Philanthropy, with technical support from the African Population and Health Research Center (APHRC). The partnership aims to improve the capacity and effectiveness of the County Governments to consolidate and achieve 'Big Wins' in human capital investments for Kenya's children and youth, thereby supporting Kenya's efforts towards achieving a demographic dividend.

The demographic dividend is the potential economic growth a country or region can experience following a decline in birth and death rates, ultimately leading to a decreased dependency ratio – a larger proportion of working-age adults and fewer dependents (young children and older people).

Harnessing the demographic dividend requires policies that lead to rapid and sustained fertility reduction, high quality human capital and high quality jobs. A combination of policies in health, education, governance and economy is needed to empower a country's human capital. The desired economic development is only possible if a country or region has a healthy, well-educated and skilled workforce with access to decent jobs (see Figure 1).

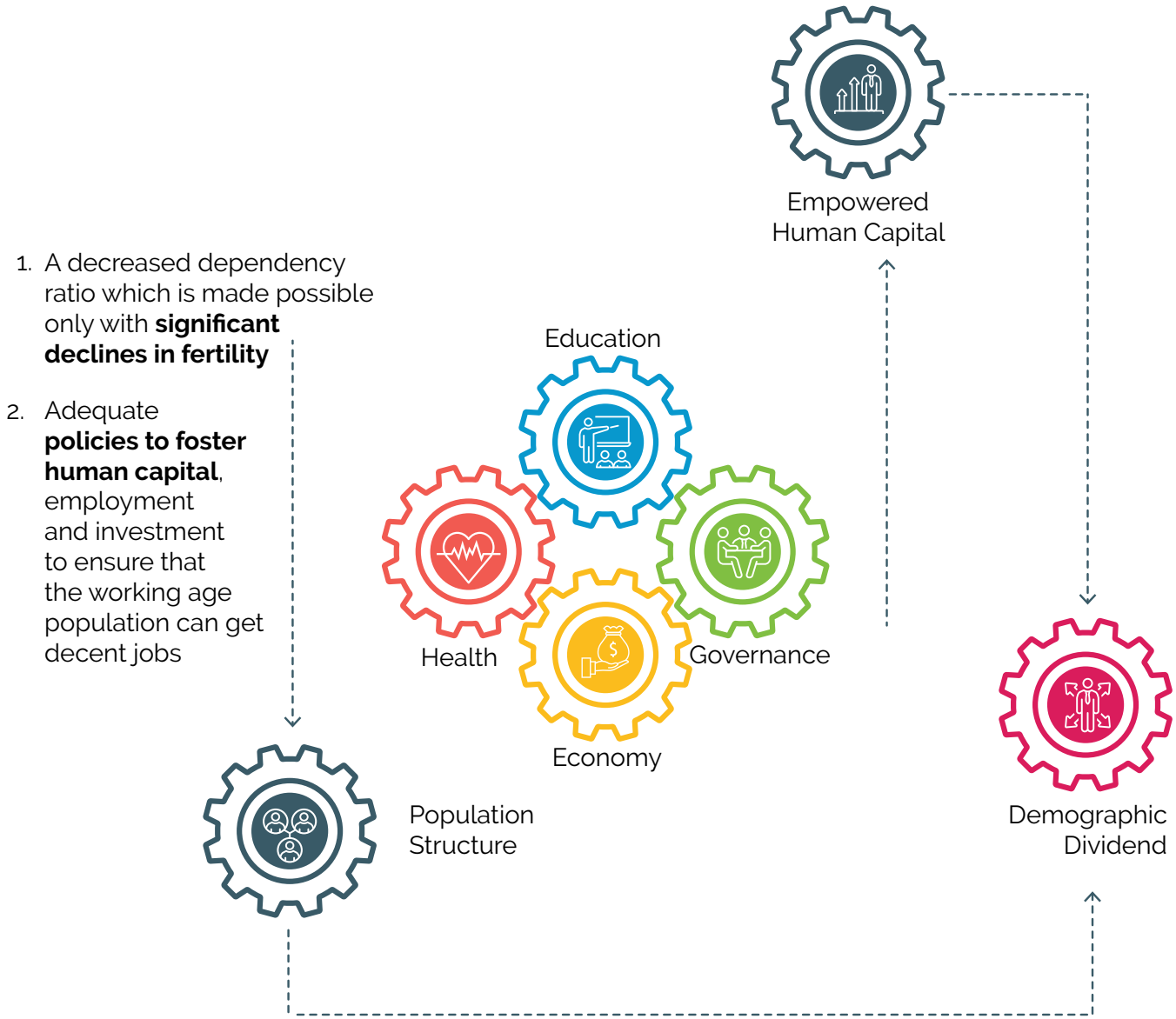


Figure 1: The policy wheels for harnessing the demographic dividend

Following the fourth annual Devolution Conference in 2017, the COG and the Ministry of Devolution made several recommendations that are captured in their joint communiqué[1] . Among others, the National Government and Governors, representing all 47 county governments, resolved that: "county and national governments should invest in key sectors such as education, health, agriculture, ICT [information communication technology] and take advantage of the youth bulge through strategic policies and development of structures to reap the demographic dividend."

The demographic dividend is important to county governments because it is an organizing framework for multi-sector policies and programs targeting children and youth. It demonstrates the synergies and complementarity of such programs and helps counties prioritize investments likely to have the greatest impact in the short term, while setting the country on the right path to achieving the demographic dividend.

A critical step in achieving the demographic dividend is to make the right policy choices when investing in youth and children, and tracking the impact of those investments. The COG and BWP identified gaps in the data production system in counties that, if left unaddressed, would make tracking investments in youth and children impossible. The high cost of building and running robust data systems for 47 counties calls for prioritization in the types and amounts of data to be collected, guided by a careful selection of indicators to use as a foundation for the required demographic dividend delivery system.

This report presents the findings of a comprehensive assessment of the data landscape in nine counties within a wider national context *(see Figure 2).*

[1]*The joint communiqué is available at URL: http://bit.ly/2qENgkj*

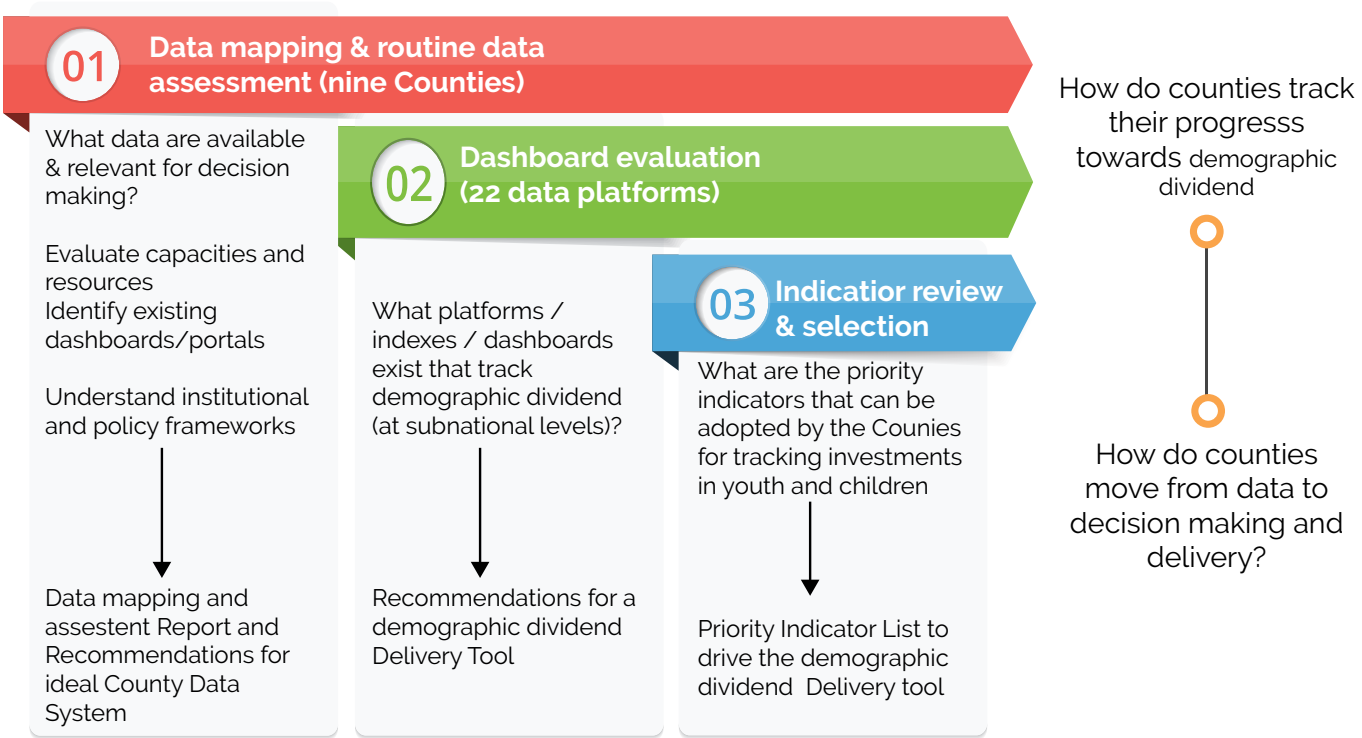


Figure 2: Methodology and approach used in collecting data for this report

The report also presents recommendations for how counties can establish effective data systems to track and make decisions on investments in youth and children that will drive a future demographic dividend. More specifically, this report provides:

1. A summary of results from an assessment of current data systems at county level and the utility of the available data generated by counties and other data agencies in the country;
2. An overview of the process of selecting priority indicators that could be tracked in monitoring investments made by counties for children and youth. The assessment focused on availability of routine and non-routine data and their relevance for tracking key indicators on children and youth that are related to achieving a demographic dividend;
3. A list of priority indicators in health, education, employment and governance for consideration in establishing a delivery system for the demographic dividend in counties.
4. Options for a prototypical tool that could be used by County Governments to track investments in youth and children based on the priority list of indicators; and
5. Recommendations for factors to consider in establishing an ideal and effective county system that would produce data for the selected indicators and support county decision-making.

County Data Mapping Assessment

The county data mapping exercise is based on the data life cycle, which describes how data flows from collection to processing, dissemination and use, and how each step in this process informs the next in a continuous cycle *(See Figure 3).*

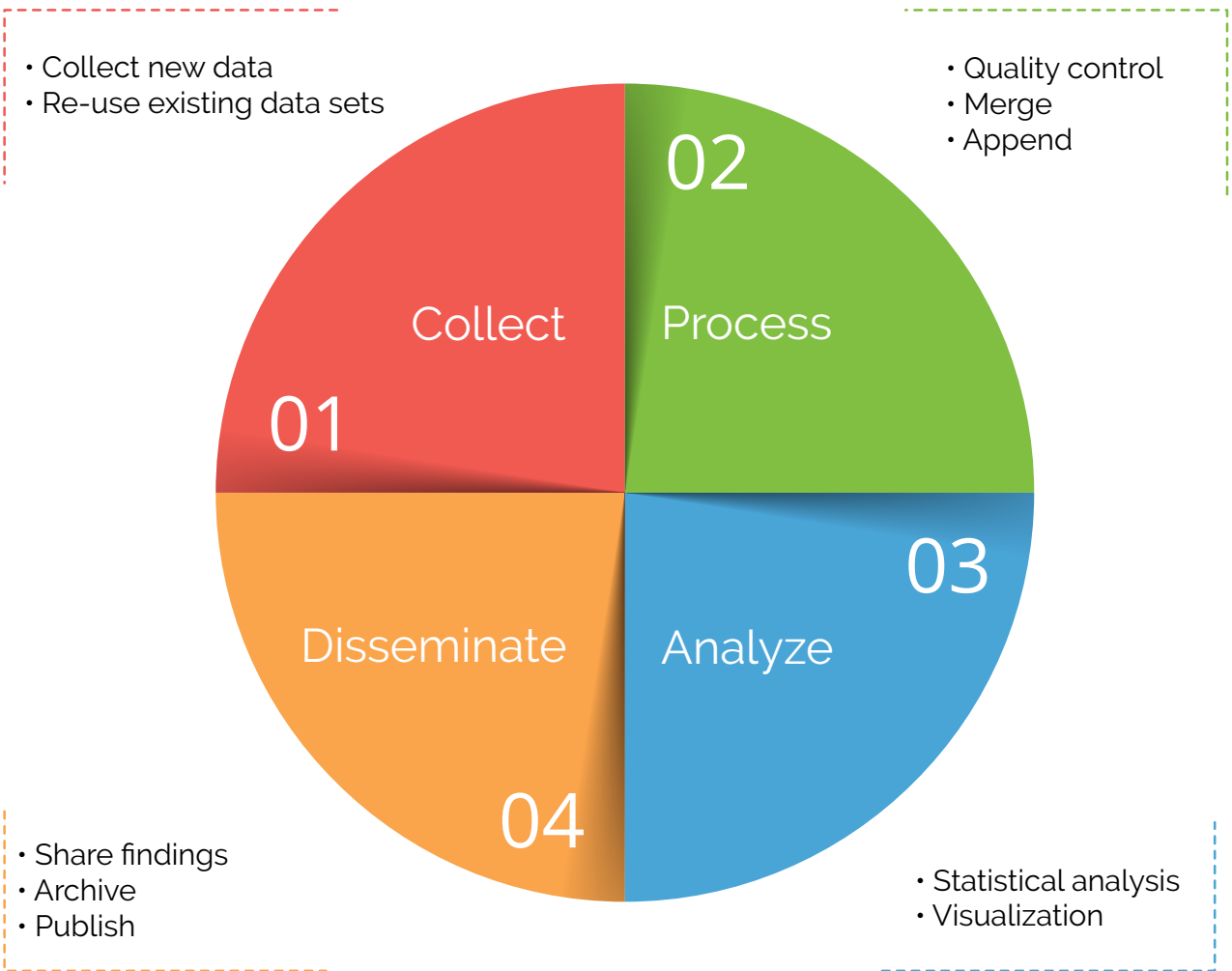


Figure 3: Data life cycle

The data life cycle was used as a guiding framework for assessing the counties' information and data needs, data availability and accessibility, as well as capacities for different stages of data production and use. The process involved three rounds of direct consultations with counties and national-level data stakeholders. The first round involved nine counties: Kakamega, Kisumu, Kitui, Makueni, Meru, Trans Nzoia, Turkana, Vihiga and Wajir. The nine counties were selected in consultation with the COG based on interest expressed by the counties themselves as well as a need for geographical balance. The assessment included a series of consultations conducted between November 2016 and February 2017, with officials at county and national levels, and with ministries and agencies that play a crucial role in the generation and use of data across the sectors related to the achievement of demographic dividend.

At county level, the concerned sectors are: health, education (including early childhood), youth and gender, and economic planning. County officials consulted included decision-makers such as governors, deputy governors, County Executive Committee members (mainly for education, health, youth and gender), and technical staff such as monitoring and evaluation (M&E) officers, planning officers, statisticians, research and development officers among others.

A second round of county consultations was undertaken within five selected counties to further assess county data systems in depth This round also involved consultations with officials from national government ministries (Health, Education, Devolution and Planning) and agencies (Kenya National Bureau of Statistics (KNBS), National Gender and Equality Commission (NGEC) and National Commission for Population and Development (NCPD)). A final consultation round was held with 31 Counties in early 2017 to share and validate the initial findings.

A full list of counties that participated in the validation exercise is provided in Annex B.

Key Findings from the County Data Assessment

Appreciation for data:
There is an appreciation of the value of data in decision making by politicians and technocrats in the counties, but there are no commensurate investments in robust data production systems to generate what counties need, when they need it.

Limited skills:
Most of the routine data collection happens at county level and lower administrative levels; however, data processing (analysis and interpretation), dissemination and use happen at the national level. There is therefore a concentration of skills for the initial stages of the data life cycle at the county level and limited skills for the latter stages, which is necessary for the leap from data to knowledge to action (see Annex A).

Data gaps:
Data to adequately understand and respond to county development challenges is not readily available. Most data systems are not designed to support decision-making at county level – whether in scope, coverage, or timeliness;

Incomplete data life cycle:
The data life cycle is not completed: as the routine data is processed, often at the national level, it does not always flow back to the counties to inform local decision-making or further collection. The complete data life cycle (Figure 3) must be replicated at every level;

Duplicated and uncoordinated efforts:
There are many sub-optimal data production arrangements, a lack of coordination among data producers within the counties, and no strategic framework to guide data production and use at county level. There are multiple duplicative and uncoordinated data collection efforts in most counties, hence competition for limited resources that has led to sub-optimal use of existing expertise but also a usurping of roles;

Unconnected data producers with users:
There are no clear mechanisms of engagement between data producers and end-users within counties. Other than for routine data, there are no institutionalized mechanisms to guide data generation, knowledge translation and evidence use;

Uneven distribution of skills:
There is an imbalance in the skill sets available at county level for all functions in a data life cycle. While some counties have sufficient data collection capacity, most lack capacity for processing and curating, with the biggest skills gaps in data dissemination and knowledge translation. In addition, counties have varied arrangements for units responsible for data, with some fairly well capacitated and others not *(see Figure 4);*

County	Existing Capacity	
	Human Resources	Infrastructure
Wajir	Very limited – no staff for data processing in all key departments	Very limited (unstable internet connectivity outside the premises, no appropriate software for data processing)
Meru	Very limited – no staff for data processing in all key departments	Very limited – no staff for data processing in all key departments
Kitui	Have a county statistician, each department also actively collects & process data	Very limited – no staff for data processing in all key departments
Makueni	Have a research department for county staffed by M&E officer, statistician	Each department visited had a computer, internet connectivity good
Turkana	Very limited – no staff for data processing in all key departments	Very limited – no staff for data processing in all key departments
Trans Nzoia	Very limited – no staff for data processing in all key departments	Very limited – no staff for data processing in all key departments
Kakamega	Processing of data from the county and other sources done by the planning department	Limited in departments outside the Planning Department
Vihiga	Very limited	Very limited
Kisumu	Very limited – no staff for data processing in all key departments	Very limited (unstable internet, limited access to dedicated hardware & software for data processing

Figure 4: Qualitative assessment of capacity for data processing in seven counties.
Red shows counties with low capacity for human resources and infrastructure
Orange shows counties with moderate human resources and infrastructure. A similar assessment was done for all the components of the data life cycle

More data needed:
Most of the data available are about inputs. Data on processes, impact and outcome are also needed;

Lack of clarity of roles:
The roles of national data agencies are not clear to all county data teams and there are no formalized mechanisms of engagement between the representatives of the national data agencies and the county units charged with data production and use;

In spite of the needs and gaps identified in the county data systems, clear opportunities exist to build on current initiatives within counties and partnering with national and other data agencies to strengthen the data ecosystem. A couple of counties have established fairly well capacitated units and integrated data use in their planning cycles, others have strong partnerships with other data agencies. The existence of a knowledge sharing platform at COG - Maarifa Centre – is a critical building block for a support system for counties while the recent launch of the Performance Management Framework for County Governments[2] is a huge opportunity to strengthen institutional frameworks for integrating data and evidence use in decision making.

In addition, the COG and counties can leverage existing tools for planning and performance monitoring, which provide guidance by simulating the levels of demographic dividend that counties can harness in different socio-economic policy scenarios. By adopting the demographic dividend as an organizing frame for investments in children and youth, counties can strategically maximize the impact of these investments.

[2]The Performance Management Framework for County Governments is available at: http://bit.ly/2pFSn2H

Key Findings from the County Data Assessment

After an iterative and consultative process involving stakeholders, a long list of indicators aligned to the four pillars of the demographic dividend was generated and compared with indicators in other existing development monitoring systems at county and national level (SDGs, Vision 2030 and county integrated development plans). Alignment with other monitoring systems promotes synergy with these efforts and provides opportunities for comparing estimates from different sources, which in the long term helps in improving data production while minimizing duplication of effort. Additional indicators were added to the long list to capture functions devolved to the county level that are linked to the demographic dividend, i.e. primary health care and early childhood education.

Through consultation with counties, the COG and experts in the health, education, youth and governance sectors, the list was narrowed down to indicators that are actionable, can be influenced through policy decisions at county level and have county-level data available from existing monitoring systems. The list of indicators was categorized into three tiers, (See Figure 5.)

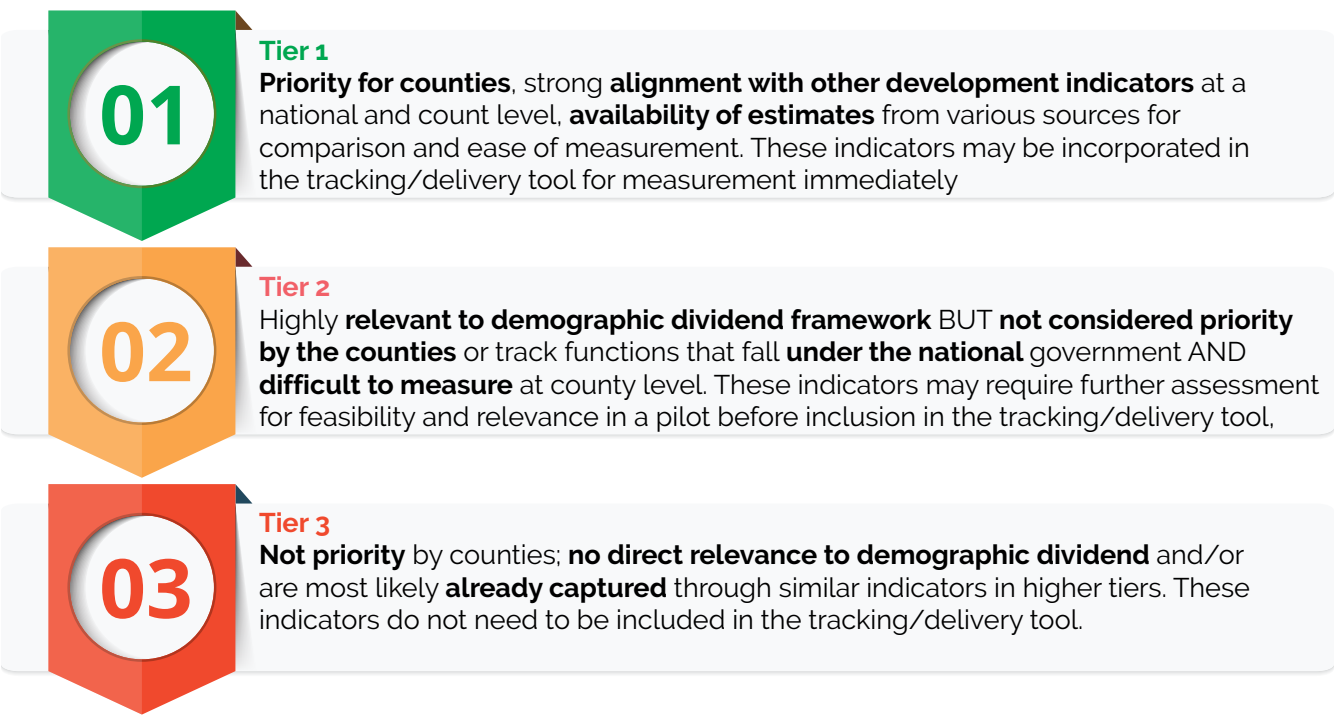


Figure 5: Characteristics of indicators in each of three tiers

For each indicator, an attempt was made to generate the most recent estimates from any credible data source and to assess the suitability of existing data production systems to provide the needed information going forward.

The assessment indicates significant gaps in current systems to generate the data needed for tracking most indicators (Tables 1 -6), as shown by the absence of estimates for many indicators based on available data. Most of the priority indicators are in the health sector, which also has the least number of indicators for which no estimates could be found. There are two main data sources for education, one national and the other county level, while for most youth employment and governance indicators, there are no data sources from which county-level estimates can be computed. Comparison of data collected through national surveys shows significant differences in estimates when data is disaggregated at different sub-national levels. It is common to use regional level estimates for all counties that fall within the old provincial boundaries, but this assessment shows that estimates from data at levels higher than the county might not accurately reflect the local situation (see Tables 1 to 3).

Health Indicators

Indicators are divided into four categories: **Maternal Health, Newborn and Child Health, Nutrition[3], and Adolescent Health (Tables 1 and 2)**. All selected indicators can be measured with county-level data and validated by comparing with estimates from established national data collection systems, such as surveys and routine health information system like the District Health Information Software (DHIS2). Some impact indicators, where change might not be seen until after several years, or those, which are difficult to measure, are excluded.

Most of the Tier 1 priority indicators for health have recent data for regional and county level estimation, unlike indicators for other areas. There are discrepancies in a few cases where county level estimates from surveys are available. This is the case in a couple of counties, with estimates from the Kenya Demographic and Health Survey (KDHS) 2014 and Multiple Indicator Cluster Survey (MICS) 2013-14. In cases where data is available and disaggregated at region and county levels, it is evident that the regional estimates do not reflect what is happening in the counties (see Tables 1 to 3). This implies that using regional level data underestimates county performance in some cases and overestimates it in others. A few indicators in health have only national-level estimates.

[3]There is significant overlap between nutrition indicators in health and priority indicators for agriculture. The value of indicators in other sectors such as agriculture will be explored in the next phase of this work.

While there is seemingly good coverage of health indicators, existing data systems are not suitable for generating estimates that counties need for continuous decision making. Data from national population-based surveys have limitations that reduce their value in generating timely and truly representative indicators. These limitations are twofold: i) they are costly and are done at three to five-year intervals, so are not very useful for monitoring impact of investments by County Governments in power for five-year cycles; and (ii) the surveys are usually designed to generate accurate estimates at national level. More recently, some national surveys have been designed to measure estimates for a few indicators at provincial (regional) and county levels.

Similarly, routine data from the DHIS2 have their own limitations namely: i) they do not cover all the priority indicators; ii) they capture the health indicators for the part of the population that uses public health facilities, hence omitting users of private health facilities and those who do not use formal health services. The health status of these three sub-groups may be different; and iii) the reports produced from the data provide a national picture of public health services and not county-specific estimates. Delays in data analysis and dissemination also mean that these reports are not produced fast enough to be used in decision making at county level.
Therefore, routine DHIS2 and survey data need to be supplemented by community-based systems using Community Health Volunteers (CHVs), chiefs or other data collectors. Additional data could be collected using mobile-based population surveys.

Alternatively, the data from multiple sources can be combined to improve the estimation of some indicators. For instance, combining data from population census projections (to estimate a target population in a given county), health service availability and readiness surveys – SARA (for health care utilization patterns by the target population in public and private sectors) and DHIS2 (on actual use of services by the target population in the public sector) can help generate adjusted and improved estimates for indicators relevant to that target population. This can be done at lower cost than what it would take to collect new data, but requires an extensive validation of the methods and might not be applicable to all indicators.

The feasibility of this approach to improve estimation of indicators at county level should be explored in the next phase of this work.

Table 1: Recent estimates, data sources and level of disaggregation by county for Tier 1 priority indicators for health

Health: Tier 1 Indicators	County								
	Wajir	Meru	Kitui	Makueni	Turkana	Trans Nzoia	Kakamega	Vihiga	Kisumu
H-1.1 % of women who attended at least 4 ANC visits **(Process)**	36.8[1]	56.31			51.7[1]		51.3[1]		58.7[1]
					44[2]		38.6[2]		
H-1.2 % of live births assisted by a skilled birth attendant **(Process)**	21.7[3]	82.8[3]	6.2[3]	54.6[3]	22.8[3]	41.8[3]	48.6[3]	50.3[3]	69.2[3]
					35.1[2]		53.4[2]		
H-1.3 % of mothers who received a postnatal check-up in 48 hours after birth **(Process)**	14.9[1]	61.1[1]			45.9[1]		34.6[1]		61[1]
					37.1[2]		60.4[2]		
H-1.4 % of births with a postnatal check-up in 48 hours after birth **(Process)**	5.1[1]	36.3[1]			22.7[1]		27.6[1]		41.2[1]
					37.1[2]		67.5[2]		
H-1.5 Infant mortality rate (number/1000 live births) **(Impact)**	37[1]	36[1]			34[1]		40[1]		50[1]
H-1.6 Under-5 mortality rate (number/1000 live births) **(Impact)**	44[1]	45[1]			45[1]		64[1]		82[1]
H-1.7 % of children 12-23 months fully immunized **(Process)**	49.5[3]	83.9[3]	56.8[3]	89.7[3]	61.8[3]	63.9[3]	73.1[3]	94.4[3]	78.9[3]
					70.3[2]		78.2[2]		
H-1.8 % Of children breastfed exclusively for 6 months **(Outcome)**	61[3]	61[3]	61[3]	61[3]	61[3]	61[3]	61[3]	61[3]	61[3]
					68.5[2]		34.7[2]		
H-1.9 % of children aged 6-59 months who received 2 doses of Vitamin A during year **(Process)**	N/A								
H-1.10 % of under-5 children who are stunted **(Impact)**	26.4[3]	25.2[3]	45.8[3]	25.1[3]	23.9[3]	29.2[3]	28.4[3]	23.5[3]	18[3]
H-1.11 % of girls 15-19 years currently using modern contraception method **(Process)**	9.3[4]								
H-1.12 % of adolescents who have begun childbearing (have child or currently pregnant) **(Impact)**	17.4[3]	19.9[3]	14.8[3]	11.1[3]	20.2[3]	23.3[3]	19.4[3]	12.7[3]	15.4[3]
					101[3]		93[3]		

[1] KDHS 2014 – estimates available at region level

[2] MICS 2013-2014 – estimates available at county level

[3] KDHS 2014 – estimates available at county level

[4] KDHS 2014 – no county or regional level estimates/ national level estimates

No estimates available

Table 2: Recent estimates, data sources and level of disaggregation by county for Tier 2 priority indicators for health

Health: Tier 2 Indicators	County								
	Wajir	Meru	Kitui	Makueni	Turkana	Trans Nzoia	Kakamega	Vihiga	Kisumu
H-1.1 Maternal mortality ratio (number per 100,000 live births) **(Impact)**	2041[5]	400[5]	400[5]	400[5]	377[5]	377[5]	319[5]	319[5]	546[5]
H-1.2 % of current Family Planning (FP) users in last 3 months **(Process)**	N/A								
H-1.3 % of new FP users in past 3 months **(Process)**	N/A								
H-1.4 % of Low Birth Weight in live births **(Outcome)**	7.9[1]	8.4[1]	8.4[1]	8.4[1]	6.6[1] 8.2[2]	6.6[1]	4.8[1] 6.7[2]	4.8[1]	3.5[1]
H-1.5 % of children 12-23 months who received 3 doses of DPT3 **(Process)**					90.5[2]		93.3[2]		
H-1.6 % of under-5 children who are wasted **(Impact)**	14.2[3]	2.9[3]	3.4[3]	2.1[3]	22.9[2]	3.9[3]	1.8[2]	2.6[3]	0.8[3]
H-1.7 % of under-5 children who are underweight **(Impact)**	21.1[3]	8.1[3]	19.7[3]	10.2[3]	34[2]	15.3[3]	10.1[2]	5.9[3]	6.6[3]

[1] Kenya Demographic and Health Survey (KDHS) 2014 – estimates available at region level

[2] Multiple Indicator Cluster Survey 2013-2014 – estimates available at county level

[3] KDHS 2014 – estimates available at county level

[4] KDHS 2014 – no county or regional level estimates/ national level estimates

[5] 2009 population census – estimates available at region level

No estimates available

Table 3: Recent estimates, data sources and level of disaggregation by county for Tier 3 priority indicators in health

Health: Tier 3 Indicators	County								
	Wajir	Meru	Kitui	Makueni	Turkana	Trans Nzoia	Kakamega	Vihiga	Kisumu
H-3.1 % of children with fever in the last 2 weeks whom treatment was sought in a health facility/provider **(Process)**	65.3[3]	73.3[3]	72.1[3]	89.7[3]	63.4[3]	65.9[3]	56.0[3]	69.1[3]	74.9[3]
					50.3[2]		27.5[2]		
H-3.2 % of children with diarrhea in the last 2 weeks whom treatment was sought in a health facility/provider **(Process)**	44.2[1]	57.4[1]			58.9[1]		47.3[1]		59.7[1]
					50.3[2]		39.9[2]		
H-3.3 % of children with ARI in the last 2 weeks who received antibiotics (Process)	34.1[1]	57.4[1]			61.9[1]		53.0[1]		41.1[1]
					24.7[2]		70.5[2]		
H-3.4 % of children 0-59 months who slept under insecticide-treated net (ITN) last night **(Process)**	42.8[3]	59.3[3]	39.6[3]	50.8[3]	21.0[3]	59.2[3]	62.6[3]	70.9[3]	81.7[3]
					24.7[2]		70.5[2]		
H-3.5 % of children under age five with malaria in the two weeks preceding the survey that received any first line anti-malarial drugs **(Process)**					24.7[2]		70.5[2]		
H-3.6 % of children 6-23 months fed according to the 3 infant and young child feeding practices **(Process)**									
H-3.7 % of school children aged 2-14 dewormed **(Process)**									
H-3.8 % of women aged 15-24 who had sexual debut by age 15 **(Process)**									
H-3.9 Proportion of women aged 20-24 years who were married or in a union before age 15 **(Process)**	4.4[4]								
H-3.10 Proportion of women aged 20-24 years who were married or in a union before age 18 **(Process)**	22.9[4]								
H-3.11 % with improved sources of drinking water **(Outcome)**	66.9[4]								
					71.9[2]		79.4[2]		
H-3.12 % with improved sanitation **(Outcome)**	66.9[4]								
					12.3[2]		42.3[2]		

[1] KDHS 2014 – estimates available at region level

[2] MICS 2013-2014 – estimates available at county level

[3] KDHS 2014 – estimates available at county level

[4] KDHS 2014 – no county or regional level estimates/ national level estimates

No estimates available

Education Indicators

Indicators are divided into three categories: Early Childhood Development Education (ECDE), Vocational Education and Training, and Basic Education (Primary and Secondary) (Table 4). Routine data exist from the Education Management Information System (EMIS) as well as from data collection exercises by County education departments on ECDE.

There is reasonably good data coverage of the priority indicators for all tiers in education. Most indicators have county-level data generated from routine sources. There is a gap in estimating the indicator on transition of children from ECDE to primary education, perhaps due to the lack of synergies between data collection systems for ECDE (county function) and EMIS (national government function). Estimates on youth polytechnic enrolment and completion rates are missing for this critical County Government function.

Data from the routine EMIS needs to be supplemented by surveys for better estimation of the outcome indicators and to validate information from the EMIS. Strengthened community-based systems can improve the quality of the ECDE data for measuring the indicator in this category. Additional data may be collected by school heads, chiefs or even CHVs.

Economic Indicators

In the economic sector, five indicators related to youth labour force participation were selected (Table 5). Most of the employment indicators do not have any estimates available. Non-disaggregated estimates are available for only one Tier 1 priority indicator.

There are no routine data systems for these indicators, but data could be obtained and triangulated from several national level surveys, such as the Kenya Integrated Household Budget Survey, Kenya Labor Market Profile, and the Manpower Survey, that are often conducted every three to five years. Like all national surveys, they are not designed to provide employment indicators at the county level. By triangulating different data sources, it might be possible to estimate the numerators and denominators of the various indicators, which can then be supplemented by mobile-based surveys of young people conducted each quarter.

Governance Indicators

In the governance sector, 10 indicators were identified (Table 6), mainly related to County Government budget and spending on key sectors related to the demographic dividend, such as education, job creation, and health. Indicator estimates for proportion of total County Government budgets on health and education were available for the few counties whose budgets are posted online. This information could be available in other counties. Alternatively, data can be easily obtained from the counties themselves from administrative records on budgets and expenditure. Population size estimates can then be computed from projections of census and other data collected by Kenya National Bureau of Statistics (KNBS) in order to generate per capita indicators. No additional data collection is needed for indicators in this sector.

Table 4: Recent estimates, data sources and level of disaggregation by county for Tier 1 to 3 priority indicators for education

Indicator	County								
	Wajir	Meru	Kitui	Makueni	Turkana	Trans Nzoia	Kakamega	Vihiga	Kisumu
E-1.1 Percentage of children 36-59 months old who are attending an early childhood education program (Gross enrollment rate) **(Process)**	25.6[6]	69.6[6]	87.2[6]	55.2[6]	97.6[6]	52.7[6]	66.7[6]	73.8[6]	69.7[6]
E-1.2Percentage of children 36-59 months old who are attending an early childhood education program (Net enrollment rate) **(Process)**	23.7[6]	65.4[6]	84.4[6]	51.8[6]	81.5[6]	48.9[6]	63.4[6]	71.3[6]	68.5[6]
E-1.3 Percentage of children who transition from ECDE to primary school education **(Outcome)**									
E-1.4 Teacher|learner ratios at ECDE **(Outcome)**	41.2[6]	24.4[6]	22.9[6]	20.9[6]	86.1[6]	30.9[6]	26.9[6]	19.5[6]	27.0[6]
E-1.5 Youth Polytechnics enrollment rate **(Process)**									
E-1.6 Youth Polytechnics completion rate **(Outcome)**									
E-2.1a Primary school gross enrollment rate **(Outcome)**	35.2[6]	110.2[6]	87.2[6]	116.8[6]	77.4[6]	112.3[6]	120.1[6]	118[6]	111.2[6]
E-2.1b Primary school net enrollment rate **(Outcome)**	27.2[6]	93.6[6]	94.4[6]	95.3[6]	58.8[6]	92.6[6]	96[6]	93.7[6]	94.9[6]
E-2.2 Primary school completion rate **(Outcome)**	82.7[7]								
E-2.3 Transition rate primary to secondary education **(Outcome)**	82.3[7]								
E-2.4a Secondary school gross enrollment rate **(Outcome)**	12.8[6]	70.2[6]	68.3[6]	103.3[6]	12.1[6]	52.9[6]	64.3[6]	96[6]	68.2[6]
E-2.4b Secondary school net enrollment rate **(Outcome)**	9.3[6]	57.5[6]	55.1[6]	85.5[6]	8.7[6]	42.2[6]	52.1[6]	79.9[6]	58.1[6]
E-2.6 Pupil Teacher ratio in primary school **(Outcome)**	45.4[6]	27.8[6]	27.8[6]	29.3[6]	71.4[6]	39.0[6]	38.4[6]	32.8[6]	32.1[6]
E-3.1 Percentage of children age 36-59 months who are developmentally on track in literacy/ numeracy, physical, social/emotional, and learning domains **(Impact)**									

[6] Basic Education Statistical Booklet 2014 – estimates available at county level

No estimates available

[7] Kenya Economic Survey 2016 – no county or regional level estimates/ national level estimates

Table 5: Recent estimates, data sources and level of disaggregation by county for Tier 1 and 2 priority indicators for employment

Indicator	County								
	Wajir	Meru	Kitui	Makueni	Turkana	Trans Nzoia	Kakamega	Vihiga	Kisumu
M-1.1 Overall youth employment rate (by formal and informal sector) **(Impact)**	17[8]								
M-1.2 Youth unemployment rate **(Impact)**									
M-1.3 Percentage of young people not in education, employment or training **(Process)**									
M-1.4 Percentage of youth underemployed **(Impact)**									
Percentage of youth earning an income **(Impact)**									
M-2.1 Proportion and number of children aged 7-14 years engaged in child labor **(Impact)**									

[8]Kenya Labor Market Profile 2014 – no county or regional level estimates/ national level estimates

No estimates available

Table 6: Recent estimates, data sources and level of disaggregation by county for Tier 1 priority indicators for governance

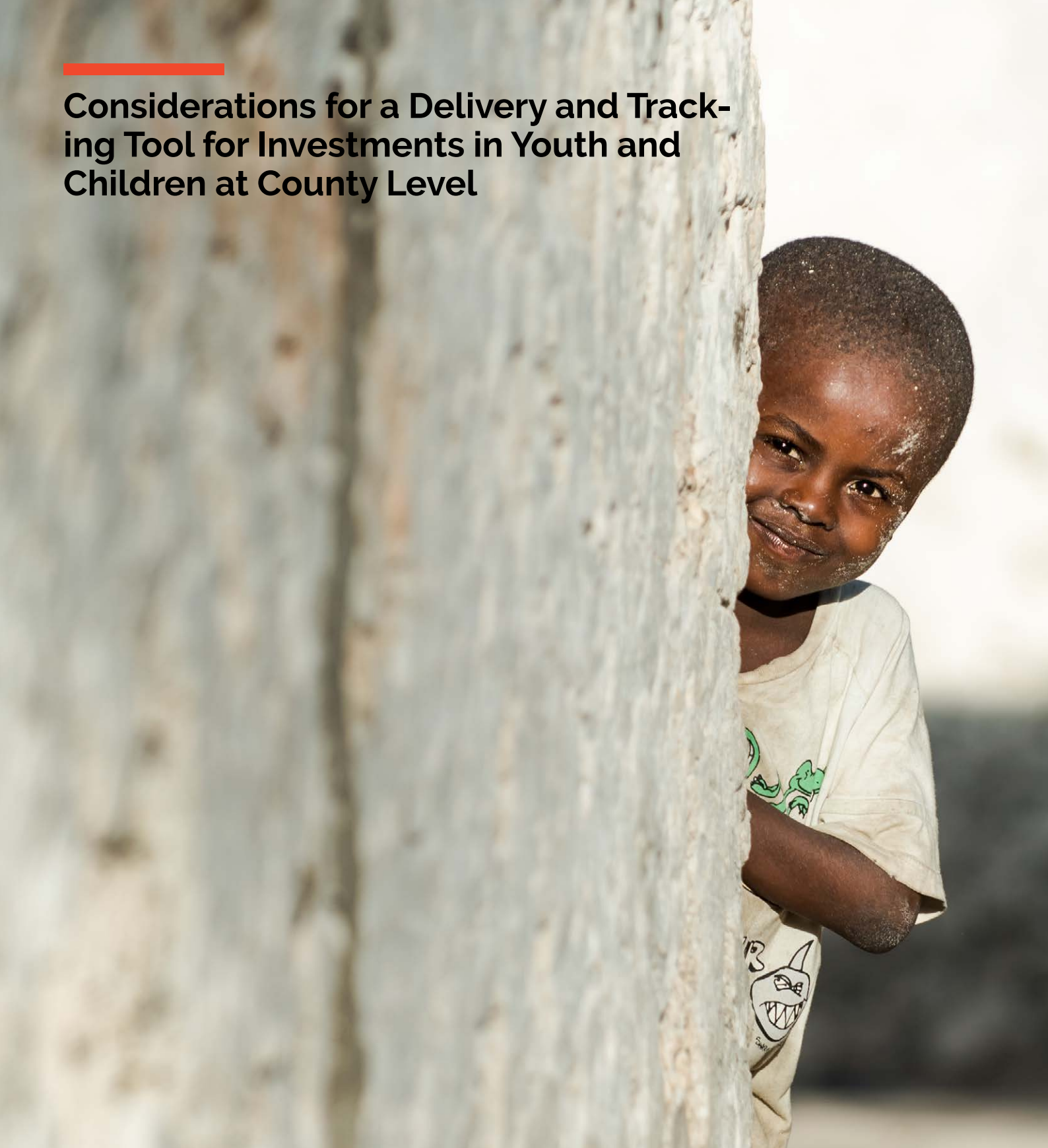
Indicator	County								
	Wajir	Meru	Kitui	Makueni	Turkana	Trans Nzoia	Kakamega	Vihiga	Kisumu
G-1.1 Proportion of total county government budget on education		7.8[9]					7.6[9]	6.6[9]	
G-1.2 Proportion of total county government budget on health		24.5[9]					26.5[9]	19.2[9]	
G-1.3 Proportion of total county government budget on social protection									
G-1.4 Per capita spending by county governments on education									
G-1.5 Per capita spending by county governments on health									
G-1.6 Per capita spending by county governments on social protection									
G-1.7 Proportion of total county government budget on early childhood education									
G-1.8 Per capita spending by county governments on early childhood education									
G-1.9 Number of doctors per 100,000 population	227[7]								
G-1.10 Number of nurses per 100,000 population	1047[7]								

[7]Kenya Economic Survey 2016 – no county or regional level estimates/ national level estimates

[9] County government budgets for 2016 – includes budget for infrastructure

No estimates available

Considerations for a Delivery and Tracking Tool for Investments in Youth and Children at County Level



Tracking investments in children and youth within the demographic dividend framework requires a tool that can be easily used by county governments taking cognizance of existing capacities for data production and use as well as the limitations of current data dissemination and use platforms. We sought to establish what the options should be for an appropriate tool and reporting system that not only tracks progress on human capital investments for children and youth at the county level but also has well-defined metrics, and is easy to use and interpret. The tool should provide a platform for monitoring, evaluation and learning (MEL), performance management, capacity building and up scaling policy interventions related to the demographic dividend. The tool should provide a multi-sector perspective to decision-makers of the impact of investments in different sectors, areas of synergy, and their alignment under a single demographic dividend organizing framework. Its functions could also potentially be expanded to support implementation of other interventions and to support counties deliver priority interventions.

The demographic dividend delivery and tracking tool should meet the needs of county governments to monitor progress towards defined targets and goals while addressing the following limitations in the current system, as identified from the data mapping and assessment:

1. Lack of tools to translate policy decisions into intervention plans with robust M&E to optimize performance and impact;

2. The presence of multiple uncoordinated data production processes within the different sectors at county level with no mechanisms to bring evidence from these processes together. Existing dashboards are also not integrated to demonstrate the effect of synergistic policies;

3. Multiple data platforms with hard to interpret outputs;

4. Existing data processing and dissemination platforms are considered static. Counties have little input in the data used to generate indicators, the choice of indicators, the manipulation of data to generate evidence and the types of outputs/products from the platforms;

5. Existing dashboards populated by data generated from national level surveys, most of which are outdated. There are numerous data gaps in the presented indicators, hence these platforms are not necessarily set up to provide continuous support to decision-makers;

6. The lack of appropriate mechanisms and frameworks for data and evidence use; and

7. Lack of feedback loops within the data production cycle where products from routine & survey data are usually late and not relevant for decision-making at lower levels, especially where the data is generated.

The key considerations for an ideal tracking tool that responds to these limitations are as follows. The tracking tool;

Enables county governments to **translate policy decisions and investment choices into plans**, and supports implementation for results. The demographic dividend framework inherently guides investment choices that have the greatest impact and deliver the most results from county resources;

Collates and processes data from **multiple sources and sectors under one tracking platform**. It should synthesize data into customized products that provide different perspectives on performance from a demographic dividend pillar lens, sector, temporal, or between-county comparisons, among others; and connects technical officers for each demographic dividend sector to the relevant performance indicators;

Interprets large amounts of data in spreadsheets by **instant aggregation and visualization**, without the need for advanced data analytical skills. Provides data interpretation that comparatively shows county performance on a given indicator over time and in relation to other counties;

Easily **identifies opportunities for peer learning** within and between counties. By providing visual comparisons between counties and across county sectors, areas of excellent and poor performance may in equal measure generate debate on factors driving performance. Systematically organized learning forums can be guided by objective visual representations of performance;

Allows **real-time data collation and processing**. Counties have controlled access to information products and what data is entered. A single officer at county or COG level can monitor data entry and reporting in real time by responsible officers; and

Is a platform that can be configured to **produce different products for different levels of decision makers** as and when needed. It should support evidence-based decision and policy making at different levels while requiring a minimum of effort for technical officers at those levels.

Other than the technical considerations, general considerations include the financial resources required, capacity needs and how the tool promotes capacity strengthening and long term sustainability.

Based on these key considerations, an assessment was done of existing tools that are in use in the country to identify which one would be most appropriate. The assessment used the Future Cities Africa Knowledge Platform (FCA-KP) standards[4] , which were empirically developed by defining a set of functional requirements for tracking tools, tested with examples from multiple African countries then used to develop an assessment matrix across six thematic areas: quality, content type, access/visualization, maintainability, data management and suitability for monitoring, evaluation and learning (MEL), payment for results (PfR) and performance management (PM).

Three tracking tool options were assessed, representing a variety of tools currently in use in the country: a simple spreadsheet, a customized data collection platform using open source software, and a configurable off-the-shelf data collection and reporting software. The FCA-KP assessment was supplemented by the findings from the data mapping exercise, which showed capacity gaps in the counties' data systems to guide the recommendations for a tracking tool.

A detailed comparison of the features, architecture, development process, data visualization and reporting functions, risks, strengths and weaknesses of each option is presented in Annex C. A comparison is also made of the capacity needs at county level and for COG for each option as well as the estimated cost for set up and maintenance.

The biggest advantage of the first option, which is a simple spreadsheet, is its simplicity and low cost, while its disadvantages include limited functions for collating and processing data from multiple sources for multiple indicators. It would also require highly skilled staff to regularly enhance its functionality to produce the kinds of data visualization outputs that counties would need for comparisons over time. This option is unlikely to meet counties' needs for a dynamic dashboard capable of rapidly generating outputs whenever needed and for different levels. Data security is also not assured.

The second custom-built option would have much more functionality than the first and could meet the requirements but only with extensive initial programming. The main disadvantage is that it would require a lot of time and financial resources for its initial development, and would also require highly skilled staff to maintain the platform in the long term, continuously programming the platform to perform optimally in terms of data visualization and reporting.

[4]The Future Cities Africa project addressed the needs of data collection and peer learning between devolved governments and countries (http://www.citiesalliance.org/futurecitiesafrica). One of the outputs of the FCA project is a "Knowledge Platform Standard" for data and evidence processes in devolved governments.

While custom reports are possible with this option, the system would have to be programmed whenever different types of reports are needed.

The third option, which is an off-the-shelf configurable tool, has the needed functionality to process data from multiple sources and for multiple indicators. It can be easily configured to generate reports and data visualization products customized to the decision-maker. With limited capacity at county level, the platform can be easily maintained and configured to alter reporting templates. The main disadvantage is that this platform would be offered as a service to counties with its back-end maintenance and updates done by a third-party supplier. Nonetheless, this arrangement has advantages, including data security and rapid deployment. The platform can be successfully managed without the need for highly skilled professionals.

Therefore it is recommended that a configurable, off-the-shelf data collection and tracking tool which suits the technical needs of a multi-user system with data from multiple sources and over different time periods, is required. Such a tool would be sourced from a credible third party with all the functionality needed for data input by the counties, data management, visualization, and info-graphics. This is deemed most appropriate for the existing capacity and future medium-term capacity at county- and COG-level to develop, maintain and manage complex, secure and dynamic data processing systems. However, the feasibility, acceptability, cost and sustainability of this option needs to be further explored in the next phase of this work.

Towards an Ideal County Data System

Counties need data systems that are responsive to their needs for planning, prioritisation, monitoring investments, and evaluating the impact of those investments. While it is desirable to have data systems with sufficient coverage of all sectors, it is more important that they are geared towards producing data to track prioritized indicators.

There are elements in the current county data ecosystem that can be built on to improve its effectiveness in responding to counties' evidence and information needs. These are:

1. Units that are charged with data production and dissemination within counties, which contain diverse skills in statistics, economics, M&E, data systems, and ICT;

2. A culture of data collection to inform new initiatives and use in planning;

3. Capacity for data production and use within departments that could be organized into specialized data units;

4. Existence of data collection structures at grassroots and service delivery level in some departments, which could be used for population-based data collection;

5. Presence of national and other data agencies in the counties that could provide technical support to the data units or could be formally integrated within the county systems; and

6. The presence of a knowledge management unit, the Maarifa Centre at the COG. Given that such a structure already exists with the right institutional framework, expanding its mandate to include overseeing data production and use may be feasible.

The proposed system should also address current limitations and shortcomings, namely:

1. Lack of timely population-based data to inform critical steps in decision making;

2. Lack of comprehensive county-level M&E plans and other strategic knowledge translation plans;

3. Lack of formalized mechanisms of engagement between data producers and users within the counties, which could be guided by M&E and knowledge translation plans;

4. Duplicative and uncoordinated data generation efforts within counties;

5. Lack of clear mechanisms of engagement between national and other data agencies and county data units; and

6. Skills gaps across the board, but specifically the later stages of the data cycle, such as in dissemination and use as well as managing a complex data processing and visualization tracking tool.

Key Considerations for a County Data System

Optimal use of critical skills – a demographic dividend 'delivery toolkit' based on the best skills of county experts to assist all counties with demographic dividend implementation. Assisted by centralized support units, with each assigned to counties within a regional cluster, these units will provide skills in data collection, processing and demographic dividend implementation at county level through access to an all-county shared-service tracking and delivery tool.

Streamlining institutional frameworks for optimal data use – adopting performance management plans , including the development of focused M&E plans, operationalized into annual data production plans[5] with clear mechanisms for knowledge translation and data use in performance management. Operationalizing the recently launched Performance Management Framework for counties will be a critical step in this process.

Improving the utility of existing data systems and the data they generate – streamlining functions of county data units, internal restructuring, streamlining and centralizing efficient sharing relationships with national data agencies, triangulation of routine and survey data sources to improve county level estimates.

Harnessing the power of technology – improve county plan implementation by adopting a shared service platform for county data processes, including M&E, performance management, learning and up scaling. Further improve data capture systems by using electronic means and adopting mass SMS systems for data collection.

Moving beyond M&E and data dissemination to decision support, performance management, accountability, delivery of priority projects and learning for adaptive programming – enhance the functionality of dashboards and tracking/ delivery tool by populating them with county-specific data, adding decision support modules and supporting core-county data processes.

Mobilizing government and donor technical, financial and on-line platform support by making requests that meet the specific criteria of currently funded programs, such as GoK's Kenya Devolution Support Project[6] and the World Bank Kenya Accountable Devolution Program[7].

[5]As required under CGA 2012.
[6]Information about the Kenya Devolution Support Project is available at URL: http://bit.ly/2qjQWZw
[7]Information about the Kenya Accountable Devolution Program is available at URL http://bit.ly/2r6wpux

Recommendations

Following the fourth annual Devolution Conference, the COG and the Ministry of Devolution made several recommendation that are captured in their joint *communiqué*. The conference participants resolved that county and national governments should invest in key sectors such as education, health, agriculture, and ICT and recommended that they take advantage of the youth bulge through strategic policies and development of structures to reap the demographic dividend.

The recommendations from this work indeed are strongly aligned with this commitment to establish structures that will support counties to create robust data systems that track any such investments and maximize their impact through better-supported decisions.

Detailed recommendations for each key consideration are provided in Table 7, together with which issue or issues are being addressed by the recommendation, possible actions to be taken and by whom.

Table 7: Recommendations for establishing a demographic dividend data system to monitor investments in youth and children at county level

Recommendation	Issue(s) Addressed	Possible Actions	By Whom?
Optimal Use of Critical Skills	• Imbalance in the skills set available at county level across continuum of data production and use • Lack of capacity for data processing, curating, dissemination and knowledge translation	**Establish centralized data support units for counties. This requires:** 1. Appropriate legal framework 2. Central funding mechanism 3. Institutional arrangements with other data agencies **Improve coordination of data production within Counties** 1. Capacity assessments and redistribution/reassignment of human resources 2. Formalized engagement with national and other data agencies	• COG • COG / Development Partners • COG/Technical Partner • County Governments/ Technical Partner • County Governments/ COG/KNBS & other data agencies
Streamlining Institutional Frameworks for Optimal Data Use	• Varied data production and use arrangements • Lack of coordination among different data producers and no strategic guidance for data production and use at county level • No clear mechanisms of engagement between data producers and end-users within the county • No strategic plans to guide data generation and knowledge translation • Roles of national data agencies are not clear and there are no formalized mechanisms of engagement	**Development of a comprehensive M&E framework**** 1. Articulate pathways to impact and strategies for knowledge translation 2. Describe mechanisms for evidence demand, supply and use 3. Define roles of different actors in data production at County and other levels ***Partly dependent on having sufficient capacity within counties or support from proposed centralized unit*	• Centralized Data Unit / Technical Partner • County Governments • County M&E/Planning Units • Other data agencies • As above
Harnessing the Power of Technology	• The varied data production and use arrangements are sub-optimal	1. Introduction of electronic data capture platforms 2. Use of SMS-based systems for data collection at population level	• County M&E/Planning Units • County Governments • County M&E/Planning Units • Centralised Data Unit/ Technical Partner
Moving beyond M&E and data dissemination to decision support	• Data to adequately understand and respond to county development challenges are not readily available • Most available data and systems are not designed to support decision making at county level whether in scope, coverage or timeliness	1. Enhance functionality of existing dashboards for decision support. This is dependent on availability of regular, timely and county-specific data	• COG/Centralised Data Unit/Other development partners/ Technical Partner

Recommendation	Issue(s) Addressed	Possible Actions	By Whom?
Improving Utility of Existing Data Systems	• Data to adequately understand and respond to county development challenges not readily available • Most available data not designed to support decision making at county level • Clear opportunities exist to build on existing initiatives within counties as well as partnering with national and other data agencies	2. 1) Reorganisation of county data units 3. 2) Streamline engagement with national and other data agencies 4. 3) Streamline training, supervision and data quality mechanisms for community-based and service delivery data collectors 5. 4) Improve and standardise data capture tools 6. 5) Triangulation of routine, survey and census data to improve numerator and denominator estimates for counties 7. a) Undertake projection of county populations from 2009 census by age and sex to create relevant denominators for priority indicators 8. b) For key indicators, estimate coverage of non-public services missing from routine data systems 9. **This approach can be first tested in a few selected counties to better understand the capacity needs and cost	• County Governments COG/ Technical Partner • COG/Data agencies • As above • County M&E/Planning Units • County Governments • As above • County M&E/Planning Units • KNBS/ County M&E / Planning Units • COG/BWP/ KNBS/ Technical Partner • COG/Development Partners /Technical Partner/Others

Conclusion

This report is the culmination of a consultative effort to understand the ways in which data production and use can be strengthened to support county governments prioritize human capital investments needed to drive economic development now and in the future. The demographic dividend is thus an important organizing framework for counties that invest in multiple sectors and programs targeting children and youth. Through this framework, county governments can maximize the impact of single sector investments by tapping into the synergies and complementarity of policies and programs in other sectors. They can also prioritise investments likely to have the greatest impact in the short term, while setting the country on the right path to achieving the demographic dividend.

Kenya has a rapidly shrinking window of opportunity to make the right investment choices in education, health, governance and employment creation, if it is to harness the power of its young people to drive economic transformation. The report is the first critical step in what will be a long process to put in place the support systems at county level and COG that will drive a trans-formative agenda for Kenya's children and youth, that will ultimately set the country on the path to achieving its demographic dividend.

This report has three key outputs:

1. A list of indicators, aligned with county and national development priorities, underpinned by the demographic dividend organising framework, that can be tracked by county governments to gauge the impact of their investments in children and youth;

2. A prototypical demographic dividend delivery tool that will support county governments operationalise their visions into plans and programs that will deliver for their youth and children. This integrated tool will generate the needed information on priority indicators for different departments and sectors at county level and for COG, and will promote within- and cross-county comparisons and peer learning. The delivery tool will also facilitate documentation of the legacy of county governments; and

3. Recommendations for a county data system that will generate the needed data to power the demographic dividend delivery tool and support county governments to document their successes, learn from their failures and ultimately deliver on their promises. The recommendations provide a framework around which an ideal county data system can be built to decisively address long-standing challenges of data (un)availability for decision making.

A number of critical next steps are needed to move the recommendations of this report into concrete actions including: i) dissemination and adoption of the report's recommendations through the county governments' decision making structures; ii) dissemination and outreach to incumbent and in-coming Governors after the next elections to ensure continuity and buy in; and iii) a pilot phase in which the recommendations will be translated into county data action plans, that will then be tested and refined to produce a blue print for an ideal county data system to be rolled out in subsequent phases.

Annexes

A. Routine Data Flow (Healthcare & Education Sectors

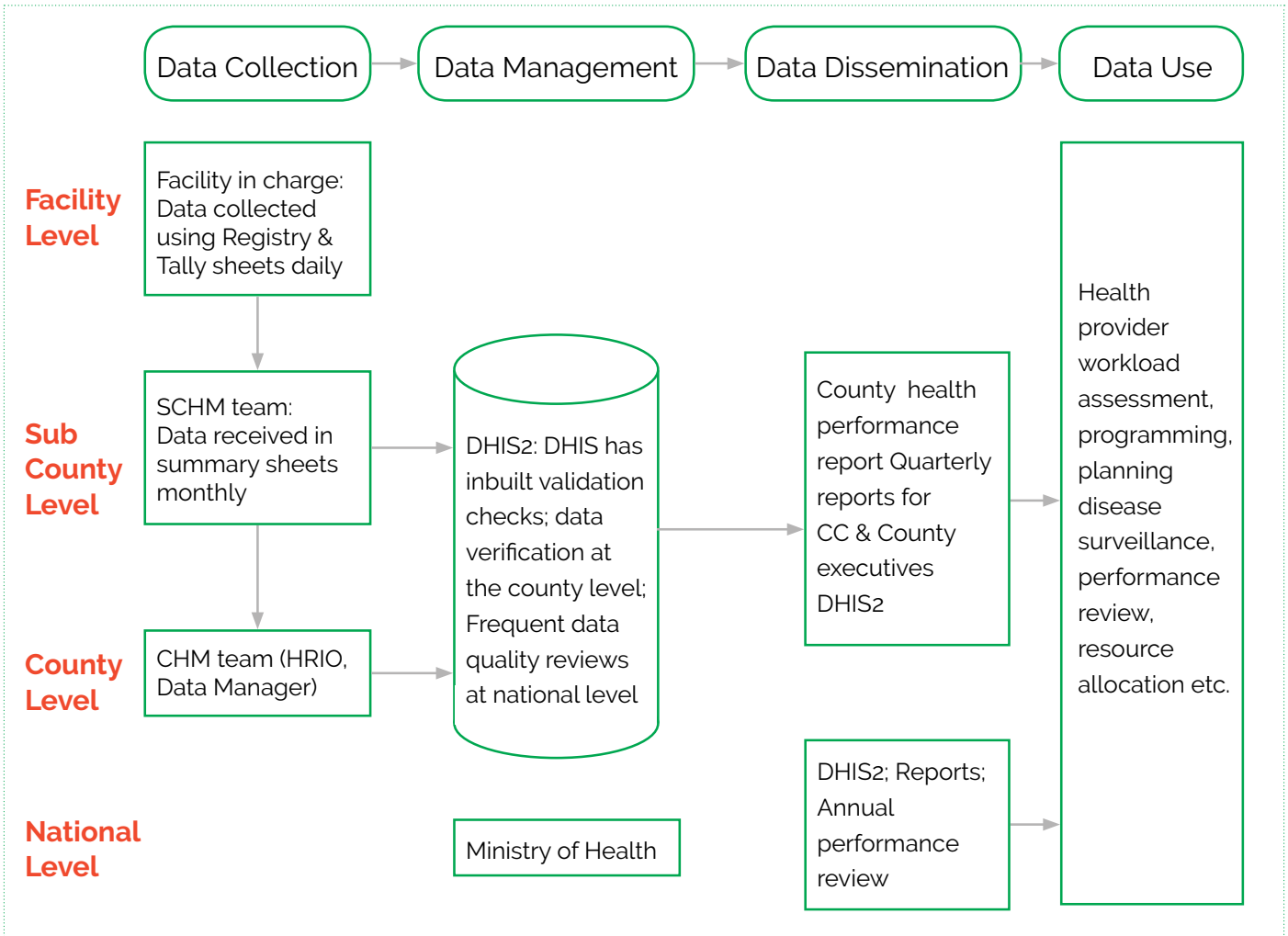


Figure 6: Routine data flow in the health sector.

Data activities at county and lower levels are concentrated at the data collection and management stage and not much is done at the data dissemination and use stages at these levels. Data collectors seem to play no role in its processing and use. Data flows are also largely one way – counties produce quarterly reports submitted to the County Executive Committee and receive annual reports from the national level. There are no sub-County or facility level reports produced for decision making. Data dissemination is largely in form of reports that vary in periods of release (annually, quarterly) and have little relevance for decision makers at lower levels of the data production

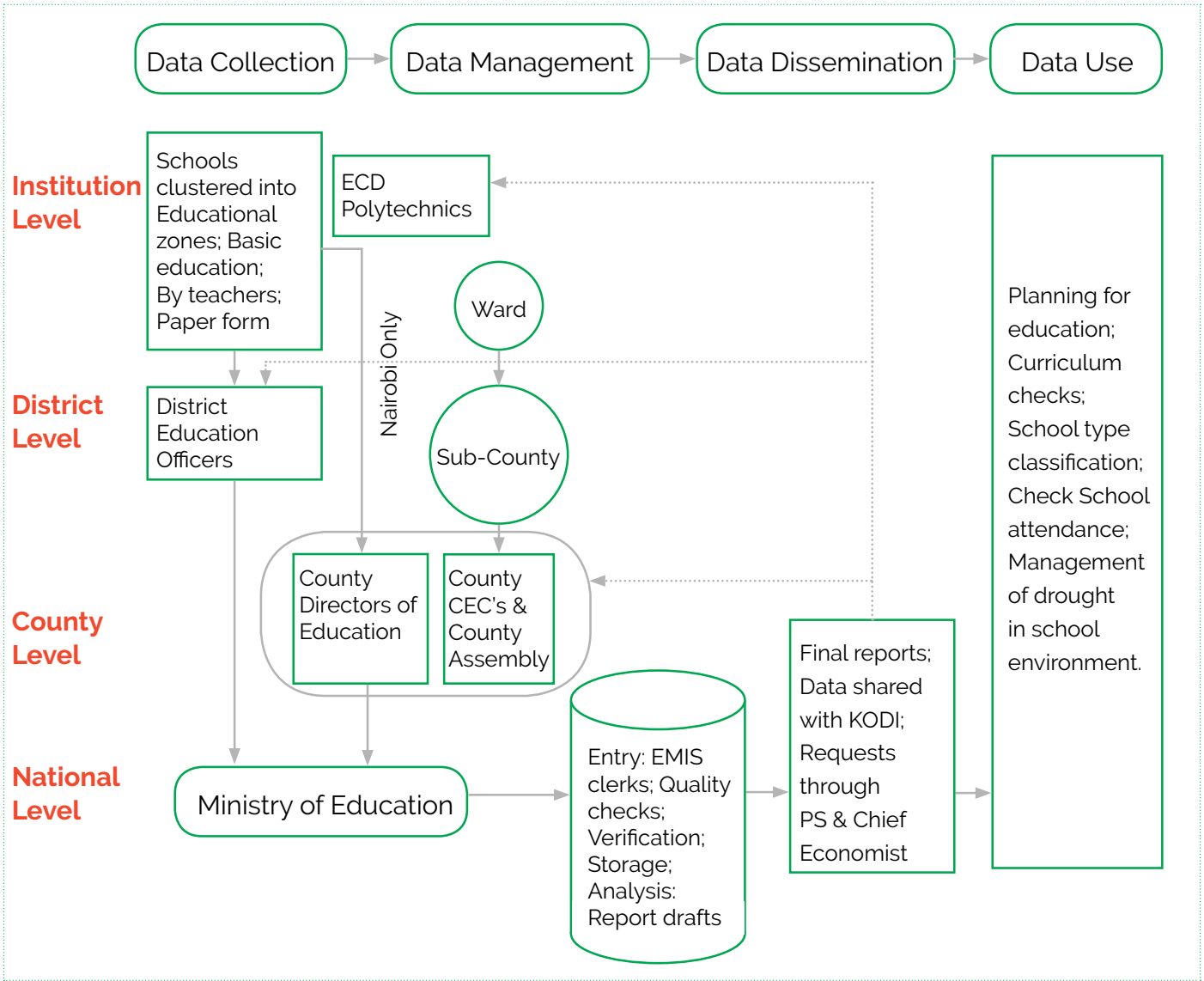


Figure 7: Routine data flow in the education sector.

Data activities at county and lower levels are concentrated at the data collection and not much is done at the data management, dissemination and use stages at these levels. Data collectors and counties seem to play no role in its processing and use. Data flows are also largely one way – Counties and schools receive reports produced at the national level. Data dissemination is largely in form of reports. Data on ECDE does not always follow this path; some counties have devised their own systems of data collection and management and so county teams play a greater role in the full data cycle. What is missing are the feedback loops at all levels of data production and use to inform further data production and decision making at all levels

B. Counties that participated in the consultative workshop on priority Indicators 1st - 2nd February, 2017

1. Baringo
2. Bomet
3. Bungoma
4. Busia
5. Elgeyo Marakwet
6. Embu
7. Homa Bay
8. Isiolo
9. Kiambu
10. Kilifi
11. Kirinyaga
12. Kisii
13. Kisumu
14. Kitui
15. Laikipia
16. Makueni
17. Meru
18. Migori
19. Muranga
20. Narok
21. Nyamira
22. Nyandarua
23. Nyeri
24. Siaya
25. Taita Taveta
26. Tana River
27. Tharaka Nithi
28. Trans Nzoia
29. Turkana
30. Uasin Gishu
31. Wajir

C. Comparison of three delivery and tracking tool options assessed using Future Cities Africa Knowledge Platform standards

OPTIONS Assessment Criteria	Excel /Word document data capture with email transfer	Custom developed data collection platform with web forms and backend MySQL database	Configurable off-the shelf data collection and reporting software as a service
Examples operating in Kenya and elsewhere	Annual Progress Report (Word), M&E Report (Word) and County Integrated Development Plan (CIPD) (Word) in Kenya. Word reports are not recommended due to lack of control over data. Excel data collection is therefore considered. Ghana's Functional Organizational Assessment Template (FOAT) uses a similar process for 216 district governments (Excel).	Performance contract reporting of Government of Kenya (GoK). The "Open Counties" web site is another example in Kenya, but this is largely a data presentation platform linked to open data content. This does not provide the data architecture for a county data management system. See below under Architecture.	County Performance Management System (PMS), used in a handful of counties in Kenya, and FCA-KP. Both county PMS and FCA-KP are configured from the same standard platform. The platform benefits from being configurable, rather than requiring custom programming.
Architecture	Excel or Word document templates distributed to counties by email. Results returned by email. Manual aggregation and comparison of results using Excel. This arrangement is not really a data collection architecture.	Web forms and centralized database. Paper forms used based on the GoK performance contract guidelines. Results then entered into a central MySQL database. Constant development and programming needed to adapt to changing data visualization needs. Open Counties is a data presentation platform linked to open data sets.	Web form data collection stored in suitable database. Highly flexible through configuration with style customizable through CSS (software for website aesthetics). Centralized data collection, with data accessible through MySQL interface. Re-usable reports, dashboards and visualizations, including info-graphics.
Development Process	Spreadsheet or Word templates, Excel programming and manual collation of results. Each new template requires repeated development.	Database programming and web form programmer development. Each new template requires further programming and increases complexity.	Templates added through configuration of meta-data without programming.
Visualization & Reporting	Requires custom development with simple tools for single county/ single period reporting. Could be developed by a competent Excel user. Cross-county comparison or time series/trend reporting will require collation of results from multiple counties over time. Requires sophisticated spreadsheet programming to combine results from multiple counties and multiple time periods. Features such as data driven images and knowledge base not supported.	MySQL database makes relational and graphical reporting possible using third party tools. Could be developed by a competent SQL developer. Cross-county comparison or time series/trend reporting are possible by compiling results from multiple sources from multiple years. Visualization is a gap in the current version of this option). (No data available on current reporting facilities.) Must find a supplier with experience and track record of info-graphic and dashboard delivery and with experience of programming re-usable and parameterized SQL reports.	Built-in configurable dashboards, configurable reports including re-usable reports. Standard info-graphic templates which can be edited and saved for re-use. Reporting to Excel as an option. Access to database an option for either logged in authorized users. Option of making available to public internet users.

OPTIONS Assessment Criteria	Excel /Word document data capture with email transfer	Custom developed data collection platform with web forms and backend MySQL database	Configurable off-the shelf data collection and reporting software as a service
Hosting	Data collection and analysis centralized. No new server required. Analysis performed on local personal computer. Backup and cyber security are important, but hard to ensure.	Without an external firm or team to support the platform, this would be hosted by COG. Hosting of government data requires high quality, reliable and secure hosting with guarantees of availability, backup and cyber security.	Supplier can take responsibility for hosting, maintenance and support. Software is kept up to date and supported as a part of this service. Provider would be expected to meet cyber security international standards.
Capacity needed by counties to manage the tool at county and COG levels	Minimal functionality achievable at low cost but puts at risk the DD and county data initiative due to inadequate functionality, quality risk and requirement of disciplined data culture. Likely time 1 month. Expect delays in reporting and errors in calculations	To fully meet the FCA – KP and other technical standards it is likely to take 12 months plus. Needs international quality developers of commercial quality product on long term contract. For a firm of development experts offering quality design, architecture and software development services, expect to pay $500-$1000 per day in the development phase only. Long-term maintenance contract needed in addition.	This solution has a published and stable price model to meet all FCA-KP and other technical standards. It is delivered as a service. Software cost for data collection by one user per county in 47 counties with 2 users in COG and one additional user costs $35,000 per year. (Less than $750 per county per year and $500 per extra user.) A one-off cost of installing, defining and configuring a DD template (year 1 only) of ~$60,000 taking up to 60 days. Additional options include: reporting/analytics module ($20,000 per year serves all 47 counties), Integrated Dashboard ($7,000 per year serves all 47 counties); integration options. Suggested budget including software and services $1,000 per county per month for M&E includes 20 users across the county. Public access through COG also configurable at cost of required customisation. Paying for software license is more cost effective than risky and expensive development.
Strengths	County pays software costs for standard Excel package; familiar tool; provides flexibility, analysis and charting tools of Excel. Third party tools can query Excel spreadsheets.	Programmed using MySQL database. User (COG) pays for development, but not software. MySQL backend means that standard reporting tools could be used by a SQL analyst.	Easy to use with the option of self-learning through e-learning. Platform is configurable to rapidly meet the needs of data collection, analysis, visualisation and reporting applications. Supplier takes delivery risk by configuring platform without the need for upfront programming costs. Existing examples can be reviewed to rapidly define needs. A platform can be rapidly configured, reviewed and improved to allow the client and supplier to learn together and deliver what is needed. Software continuously maintained, supported and improved.. Extensible to support other county needs.

OPTIONS Assessment Criteria	Excel /Word document data capture with email transfer	Custom developed data collection platform with web forms and backend MySQL database	Configurable off-the shelf data collection and reporting software as a service
Weaknesses	Error prone, non-accountable, not traceable. Difficult to track, manage and influence the data collection process. Data management issues such as correct naming of files, errors in submission and version control. Requires high degree of rigor to collate, aggregate and manage results. Excel does not make it easy to perform comparison and time series reporting of data with spreadsheets from many counties and time periods. Lack of control means that results are likely to be delayed (for example, APR in Kenya takes 17 months to publish, compared with the expected four months).	Fails due to lack of continuous support. Such an important platform needs to have a long-term expert team to support it, which means building a programming team or entering into a long-term contract with a credible firm/team. For analysis of platform contents, there is currently a lack of MySQL analyst skills in COG and counties. Such expertise could be included in the proposed centralised data support unit	Proprietary software, so requires annual licensing fees and a paid contract with external supplier to keep software up to date and fix any bugs.
Risks	Most spreadsheets contain errors. This option therefore requires sustained technical capacity to collate, regularly update, secure and report on data.	System not sustainable unless capacity to make changes and bug fixes is available and accessible to the regular users. Backup procedures, information governance and security vulnerabilities not adequately addressed. Lack of skills, process and governance required for an important support tool may limit its long-term sustainability.	Supplier must be competent to provide secure hosted service, must commit to long-term support and must deliver to international information security standards.
Overall assessment	An option frequently used in Kenya today, but fails to deliver timely data and evidence due to lack of control, quality and culture of reporting. It is low cost, but poor value for money due to costs of data collection, quality, accuracy and reliability. MS Excel is not the current standard of capturing large-scale data from various sources into a database. It is highly dependent on the diligence and discipline needed for data collection, collation, and analysis and reporting so not a credible long-term solution.	A viable alternative, but depends on the competence, experience and speed of delivery by selected supplier or capacitated data unit supporting the counties. Requires design, investment, delivery, testing and improvement to deliver a working tool. Requires a long-term committed and financed partner to maintain and improve the tool. Without the option of try-before-buy, references of external suppliers must be tested. Option 2 would require up to a year of development to meet the full FCA-KP and other technical standards	As an off-the-shelf tracking tool, this option should be faster to get started and be lower risk. The cost of managed service fees should be compared with the costs and value for money of other options. Credibility and functionality could and should be tested against the specific needs of tracking investments in youth and children to achieve the demographic dividend. The client should expect to see the platform working before committing to spending on software. The cost of license fees is low compared to the cost of custom development.

adidas

About the Partners

Big Win Philanthropy

Big Win Philanthropy is an independent foundation that invests in children and young people in developing countries to improve their lives and to maximize demographic dividends for long term economic growth. Big Win Philanthropy partners with leaders who have a stake in the outcome to achieve transformational change.
www.bigwin.org

Council of Governors

The Council of Governors is composed of the Governors of the forty-seven counties and its main functions are the promotion of visionary leadership; sharing of best practices and; offer a collective voice on policy issues; promote inter – county consultations; encourage and initiate information sharing on the performance of County Governments with regard to the execution of their functions; collective consultation on matters of interest to County Governments.
www.cog.go.ke

African Population and Health Research Center

African Population and Health Research Center is committed to generating an Africa-led, African-owned body of evidence to inform decision-making for an effective and sustainable response to the most critical challenges facing the continent.
www:aphrc.org

Big Win Philanthropy

COUNCIL OF GOVERNORS

African Population and Health Research Center

Delta Corner, Tower A, 2nd Floor, Chiromo Road,Off Waiyaki Way

P. O. Box 40401 - 00100 Nairobi Kenya

+254 (020) 2403313/4 | +254 (0) 729 777 281

info@COG.go.ke

COG.go.ke