Southern Voice

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Unpacking Data Challenges
The Sustainable Development Goals (SDGs) in Tanzania

Blandina Kilama
Constantine George
Lucas Katera

UNPACKING DATA CHALLENGES

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Blandina Kilama
Constantine George
Lucas Katera

Dr Blandina Kilama is a Senior Researcher at the Policy Research for Development (REPOA), Tanzania. She can be reached at: bkilama@repoa.or.tz

Mr Constantine George is a Researcher at the REPOA. He can be reached at: cgeorge@repoa.or.tz

Dr Lucas Katera is Director of Commissioned Works at the REPOA. He can be reached at: katera@repoa.or.tz

Preface

Southern Voice on Post-MDG International Development Goals (Southern Voice) is a network of 49 thinks tanks from Africa, Asia and Latin America, which was founded in 2012 to serve as an open platform to contribute to the global discourse tied to the formation, implementation, monitoring and mid-course review of the Sustainable Development Goals (SDGs).

The *Post-2015 Data Test* was a pioneering multi-country project, which was conceived and implemented in the period immediately following the release of the Report of the High-Level Panel of Eminent Persons on the Post-2015 Development Agenda. Co-led by *the Southern Voice*, *the Norman Paterson School of International Affairs* (NPSIA) and *the Centre for Policy Dialogue* (CPD), the project was implemented in Bangladesh, Canada, Peru, Senegal, Sierra Leone, Tanzania and Turkey to assess the manner in which the post-2015 agenda maybe measured and implemented across a range of country contexts.

After the successful completion of the collaborative seven-country project, *Southern Voice* decided to undertake a follow-up exercise based on conclusions and recommendations of the project's previous country studies. Under the follow-up exercise, four countries, viz. Bangladesh, Senegal, Tanzania and Turkey have prepared country-level Data Action Plans for addressing the capacity gaps and data deficits with regard to the implementation of the SDGs, which were unanimously adopted at the Sustainable Development Summit in New York in September 2015.

The present study viz. "Unpacking Data Challenges: the Sustainable Development Goals (SDGs) in Tanzania" is the first of the four Data Action Plans to be published under the Southern Voice Occasional Paper Series, and delves further into SDG monitoring areas that face particular data challenges in Tanzania. In order to enhance understanding of these challenges, the study considers the implications of data deficits and identifies possible solutions, with special focus on two goals identified to possess significant data gaps, i.e. the Environment and the Governance. The study has been authored by *Dr Blandina Kilama*, Senior Researcher; *Mr Constantine George*, Researcher; and *Dr Lucas Katera*, Director of Commissioned Works at REPOA – Policy Research for Development, Dar es Salaam.

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Debapriya Bhattacharya, PhD
Chair, Southern Voice on Post-MDG International Development Goals
and
Distinguished Fellow, CPD
E-mail: debapriya.bh@gmail.com

Authors' Acknowledgements

Abstract

Following the successful completion of Phase I of the project, "Unpacking the Data Revolution" in Tanzania, the second phase was undertaken with the aim to explore in further detail those SDG monitoring areas that face particular data challenges. The objective is to increase understanding of these challenges, explore their implications and identify possible solutions. This paper focuses on two particular goal areas that have been identified for Tanzania to have significant data gaps, namely environment and governance. The present paper shows that in case of environment, data collection suffers from limited spatial coverage. As for governance, the available data is highly reliant on perception surveys. Findings reveal that although both these two goals have been given the necessary attention in previous national strategies, the availability of data for measuring progress towards selected targets is significantly lacking. Therefore, it is essential to build data capture capacity to facilitate the monitoring and assessment of indicators for environment and governance-related goals. The present paper suggests to improve coordination between data collectors in Tanzania, especially between the National Bureau of Statistics (NBS) and other agencies that collect routine (administrative) data to ensure the harmonisation and comparison of data from these different sources.

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Acronyms

AU	African Union
BoT	Bank of Tanzania
CPD	Centre for Policy Dialogue
CSO	Civil Society Organisation
EMA	Environmental Management Act
FYDP	Five Year Development Plan (Tanzania)
GCF	Green Climate Fund
GDP	Gross Domestic Product
GEF	Global Environment Facility
ICT	Information and Communication Technology
IRMT	International Records Management Trust
LDCF	Least Developed Countries Fund
MDG	Millennium Development Goal
MKUKUTA	Mkakati wa Kukuza Uchumi na Kupunguza Umaskini Tanzania (Tanzanian National Strategy for Growth and Reduction of Poverty)
MMP	MKUKUTA Monitoring Plan
M&E	Monitoring and Evaluation
NBS	National Bureau of Statistics
NEC	National Electoral Commission
NEMC	National Environment Management Council
NGO	Non-Government Organisation
NIDA	National Identification Authority
NPS	National Panel Survey
NPSIA	Norman Paterson School of International Affairs
NSDS	National Strategy for the Development of Statistics
NSGRP	National Strategy for Growth and Reduction of Poverty
NSO	National Statistical Office
NSS	National Statistical System
OCGS	Office of the Chief Government Statistician
PO-RALG	President's Office – Regional Administrative and Local Government
REPOA	Policy Research for Development
RITA	Registration, Insolvency and Trusteeship Agency
R&D	Research and Development
SDG	Sustainable Development Goal
TANESCO	Tanzania Electric Supply Company
TRA	Tanzania Revenue Authority
TSMP	Tanzanian Statistical Master Plan
UN	United Nations
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme

UNPEI	UNDP-UNEP Poverty-Environment Initiative
UNSD	United Nations Statistics Division
URT	United Republic of Tanzania
USD	United States Dollar

Unpacking Data Challenges
The Sustainable Development Goals (SDGs) in Tanzania

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1. Introduction

1.1 Background

The 17 Sustainable Development Goals (SDGs), adopted by Heads of States at the United Nations (UN) General Assembly on 25 September 2015 (UN General Assembly, 2015), were announced with a pledge that "no one will be left behind." Indeed, the year 2015 marks the beginning of a further 15 years of global development goals and targets committed to achieve by countries around the world, which follow on from the progress achieved by the now expired Millennium Development Goals (MDGs). In association with the Southern Voice on Post-MDG International Development Goals, the Centre for Policy Dialogue (CPD) and the Norman Paterson School of International Affairs (NPSIA), led an initiative, the "Post-2015 Data Test: Unpacking the Data Revolution at the Country Level," aimed at road-testing the SDGs accross a variety of country contexts, with Southern institutions providing key inputs into the national and global debates. The initiative applied a carefully-selected set of candidate post-2015 targets and indicators to a number of low-middle, and high-income countries. The initiative assessed the adequacy of the available data for measuring post-2015 progress at the country level, and sought to inform debates and decisions on the architecture and priorities of the required "data revolution." It also identified opportunities and challenges that may arise from a post-2015 framework that is both universal and relevant at the country level. Under the "Post-2015 Data Test initiative," seven candidate goal areas were examined (Kilama *et al.* 2016): (a) poverty; (b) employment and inclusive growth; (c) education; (d) energy and infrastructure; (e) environmental sustainability and disaster resilience; (f) governance; and (g) global partnership for sustainable development.

The research team identified key country priorities for each of these goals and assessed the relevance of the global agenda to the Tanzanian context. From this analysis, a number of key national priorities (with associated targets and indicators) emerged, each of which could be used by Tanzania to ensure that the SDGs are adopted and implemented in a manner that appropriately reflects the country's specific context.

Progress Made towards Achieving the MDGs

The MDGs, a series of clear targets set to be achieved by 2015, were formulated in response to growing pressure to address global development challenges. The MDGs represented a partnership between developing and developed countries, all of which stated their commitment to creating an environment conducive to development and the reduction of poverty.

The tracking of progress (or lack of progress) towards achieving the MDGs was a data-intensive process that demanded the collection of reliable statistics. In Africa, the need to monitor, evaluate

and track progress towards attaining the goals placed not only considerable pressure on the already weak and vulnerable national statistical systems (NSSs), but also gave these systems an opportunity to develop their capacity to deliver the necessary information (Sanga, 2011).

The international effort to collect and share the information needed to monitor the MDGs at the global level involved cooperation among numerous stakeholders at several levels. National data collectors transferred the relevant information, via regional and international organisations, to the global database maintained by the United Nations Statistics Division (UNSD) in New York. However, a number of factors hindered the capacity of countries to report on progress made towards achieving the MDGs. Such factors included a lack of data on some indicators, data discrepancies between national and international sources, methodological issues, limited capacity, as well as coordination issues within each NSS and between the NSSs and international organisations. Working with the collaboration of international technical and financial partners, stakeholders in Africa have attempted to address these factors that have hampered the capacity of African countries to report on the MDGs (Sanga, 2011).

At the time of the mid-term review, it became clear that African countries faced considerable challenges in both monitoring and reporting on the MDGs. As well as data gaps, a particular challenge was the insufficient use of official NSS-produced data. Many countries lacked coordination among national data producers, which often resulted in the reporting of inconsistent or contradictory information to international statistical agencies. Different sources produced different data in such a way because the underlying definitions and operational contexts varied. Using different sources also meant that data was not updated regularly and reference time periods differed (e.g. between financial and calendar year).

1.2 Report Overview, Methodology and Outline

Following the successful completion of phase one of the Tanzanian study on "Post-2015 Data Test: Unpacking the Data Revolution at the Country Level," Policy Research for Development (REPOA) was once again commissioned to undertake the second phase of the research titled "Strengthening Voice, Building Capacities and Expanding Outreach of the Southern Think Tanks in Shaping the Post-2015 International Development Goals." This phase aims to explore in further detail those SDG monitoring areas that face particular data challenges, with a view to increase understanding of these challenges, explore their implications, and identify possible solutions. This study therefore focuses on the two goals of environment and the governance, as these were identified as the most challenging in terms of data availability, access and completeness.

This study, conducted according to the initiative's methodology guide, draws on a literature review, key informant interviews and peer review. Interviews were conducted with key informants from numerous stakeholders, including the National Bureau of Statistics (NBS), the United Nations Development Programme (UNDP), the United Nations Environment Programme (UNEP) and the National Environment Management Council (NEMC). These interviews were conducted in order to assess perceptions of data gaps in the key areas of environment and the governance. The interviews highlighted the current state of data in these topic areas, and revealed limitations in terms of access and the reliability and robustness of the data. Taking into consideration the future plans of these interviewed organisations, the study came up with a series of recommendations.

The present paper makes two important contributions. First, it gives the necessary attention needed to the areas of environment and the governance; and second, it helps address the gaps and challenges identified in the course of the 'Data Test' exercise. The present study is designed to enquire into what actions are needed to ensure better use of unofficial data, what possibilities are available to ensure sufficient disaggregation of data, and how sustainable funding for data production can be leveraged.

Through this project, Southern Voice, together with other country teams, aims to interact with national governments to contribute towards the data-related preparedness of these countries in regard to implementation of the post-2015 development agenda. This study will also identify and highlight those concrete support mechanisms that need to be developed at the global level in order to assist developing countries in this task.

Following introduction, this paper first provides key summaries from Phase I of the research project, and then discusses in detail two key goal areas identified, that are, environment and the governance. The final section concludes.

2. Summary of Country Data Test

During the consultation process, three key issues with regard to goal relevance, data format and resource mobilisation emerged. In particular, it became clear that the present agenda appears too ambitious, with too many goals making monitoring and attainment very difficult. During the consultation process, it was proposed to have fewer goals and build in greater flexibility to tailor the goals and targets to national and sub-national contexts – a "no one size fits all", and also a "not everything goes" approach. It was also proposed that issues of transformation and utilisation should be explicitly considered. Moreover, it is recognised that successful coordination and monitoring will require the allocation of greater human and financial resources. It is worth noting that while MKUKUTA[1] was designed to align with the MDGs, the MKUKUTA Monitoring Plan (MMP) was explicitly designed to track implementation.

The success of this Data Test initiative lies with resource mobilisation. In light of the current economic crisis, Tanzania will have to identify ways in which it can better mobilise its own funds, given that the so-called developed world is now concentrating more on addressing its own economic situation rather than providing funds to developing countries. During the consultation process, those involved were of the view that the Global Partnership goal (which includes a resource mobilisation component) should be cross-cutting. Importantly, it was also recognised that given that the MDGs made a lot of positive changes, it is appropriate to continue with the current agenda albeit with modifications and additions that accommodate certain issues of interest to the country.

2.1 Selecting Goals, Targets and Indicators

While it is well-known that there are 17 SDGs that have been put forward, this study found that this is likely to be too many and that they may lack focus. Therefore, there is a strong preference for less goals. However, most of the existing targets and indicators are still valid. Targets and indicators were drawn from existing plans and strategies, taking into account the national level priorities. These include MKUKUTA, the Five Year Development Plan (FYDP), and "Big Results Now."

Various consultation processes have been undertaken on the new agenda, including the establishment of a consultation website at www.ncp2015.go.tz. Media and civil society organisations (CSOs) have also taken part in this process. This consultation process aimed to better understand the current MDGs, their implementation and challenges. As a result, the "next generation MDGs" were identified. Under the Post-2015 Data Test initiative, seven candidate goal areas were examined. The research team identified key country priorities for each goal area and assessed the relevance of the global agenda to the Tanzanian context. A number of key national priorities emerged, with associated targets and indicators, which could be used by Tanzania to ensure that the SDGs are adopted and implemented in a country-specific manner.

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[1]MKUKUTA is a Kiswahili acronym, whose long form is *Mkakati wa Kukuza Uchumi na Kupunguza Umasikini Tanzania*, which is the National Strategy for Growth and Reduction of Poverty (NSGRP). This is a national framework guiding strategies for growth and poverty reduction in the country.

Goal 1: End Poverty

Poverty has a severe impact on overall human development, and thus progress toward this goal is today as relevant as it was at the time of the drafting of the MDGs. However, this goal now extends beyond that outlined in the MDGs, with an added focus on advancing income equality. The key to achieving this goal is promoting inclusive growth that benefits all, rather than a small, select group of the population. In Tanzania, eradicating extreme poverty, hunger and inequality is therefore a national priority, with possible targets being linked to reducing poverty levels, hunger, income inequality and ensuring food security and nutrition.

Goal 2: Ensure Quality Education for All

The need to focus on quality rather than quantity of education, especially in regard to health and education, has been a strong message voiced during consultations at all levels. While Tanzania is expected to reach the MDG education goal, the quality of education has been a great concern. Indeed, lack of access to quality education and skills development were considered a pressing issue by youth groups and CSOs. In this respect, it is felt that Tanzania now needs to move on to the next level in ensuring increased access to quality basic services in the post-2015 agenda. Ensuring quality service delivery must therefore be a national priority, with possible targets being linked specifically to health, education, water and sanitation.

Goal 3: Job Creation, Sustainable Livelihoods and Inclusive Growth for All

While the MDGs paid some attention to issues such as achieving decent and productive employment, they did not engage to a great degree with this target. Unemployment, particularly youth unemployment, has become a major concern in recent years. During the consultation process, the importance of creating decent employment opportunities was emphasised. In particular, there were calls for growth through structural transformations that generate employment. Issues were also raised regarding how science, technology, innovation, as well as research and development (R&D) can support improvements in productivity that aid transformation and increase competitiveness in the economy. In this context, achieving decent and productive employment is a national priority, with possible targets being linked to overall employment, youth employment, women's participation in the labour market, and women's share in total employment.

Goal 4: Ensure Sustainable Energy and Develop Infrastructure for All

Energy is an important pre-requisite for the proper functioning of nearly all sectors of the economy. Its availability and quality determines the success or failure of development initiatives. Therefore, the importance of the energy sector to the national economy cannot be overemphasised. However, despite the crucial importance of energy for the Tanzanian economy, the supply of electricity in reality remains inconsistent with the robust claims made in the national energy policy. Intermittent power supply, low voltage, frequent rationing and power outages are among the issues that constrain the production of goods and services in the country. In this regard, the implementation of Electricity Supply Industry Reform Strategy and Roadmap 2014-2025 by the Tanzania Electricity Supply Company (TANESCO), which, among other things, aims to increase the use of renewable energy (URT, 2014), should be seen as a priority. Transport infrastructure (including the roads, railways, waterways and airways) is also important in the post-2015 context. In addition, national priorities also include increasing information and communication technology (ICT) capabilities to meet domestic business demand and facilitating greater access to market and health information, as well as financial services.

Goal 5: Establish a Sustainable, Healthy and Resilient Environment for All

A healthy environment is a crucial aspect of sustainable development, as it affects not only the current generation but also future generations. Like many other countries, Tanzania is expected to be increasingly affected by global climate change, particularly warming. Warmer temperatures and changed precipitation patterns are likely to impact agricultural production, and higher sea levels may impact coastal communities, which include the major cities of Dar es Salaam and Tanga. Moreover, climate change is likely to affect energy supply given that hydropower, which is the main source of electricity in Tanzania, is especially susceptible to persistent drought. However, despite this, attention to addressing environmental issues is limited in MKUKUTA. In addition, the environment is one of the targets that face particular problems in relating to data availability. In this regard, establishing a sustainable environment is a national priority, with possible targets being linked to building resilience and reducing the number of deaths from natural hazards; safeguarding ecosystems, species and biodiversity; publishing and making use of economic, social and environmental accounts in all government agencies and large companies (those with capital in excess of USD 100 million or equivalent); and mainstreaming environmental sustainability in government policies, strategies, budgets and plans.

Goal 6: Establish Open, Accountable, Inclusive and Effective Institutions, the Rule of Law, and a Peaceful and Inclusive Society

Good governance, an area absent in the MDGs, was considered in the national consultation meeting to be a key concern for sustainable development. The underlying premise here is that human development cannot be realised in an environment characterised by bad governance. In other words, it is difficult to attain human development in a context of high corruption, low citizen participation, and a lack of fiscal transparency (specifically in regard to revenue earnings and expenditures). In this respect, improving governance is a national priority, with possible targets being linked to the rule of law and law enforcement, anti-corruption, freedom of expression, citizen participation and inclusiveness, and social protection.

Goal 7: Establish a Global Partnership for Sustainable Development

This goal aims toward improving low-income countries' gains from international trading and financial systems, promoting market access, establishing fairer trading rules and tackling debt. It also aims to work with pharmaceutical companies to improve access to cheaper medication and spread the use of new technologies. While debt levels have decreased, aid requirements are increasing relative to pledges made by the world's wealthiest nations. In order to enhance aid effectiveness and enable poor countries to reduce their aid dependence, mechanisms for holding accountable both developed and developing countries (so-called "mutual accountability") are receiving increased attention. This has particularly been the case since the 2005 Paris Declaration, the 2008 Accra Agenda for Action, and the 2011 Busan Partnership for Effective Development Cooperation. Realising this "global partnership" is therefore a national priority, with possible targets being linked to greater commitments to ensure the timely delivery of aid, effectiveness of implementation of aid, and transparency and accountability.

Of the 45 indicators tested under Phase I, data for some indicators were directly available; data for a number of indicators either required imputation, had to be taken from other sources, or was completely lacking (see Table 1). Of these seven goals, the two goals of environment and the governance proved particularly difficult to source the required data.

Table 1: Data Availability

Proposed Goal Area	Targets	Indicators	No. of Indicators with Data Available	No. of Indicators that Require Calculation from Existing Data	No. of Indicators for which Data Needs to be Collected
Poverty					
Global	3	5	2	3	0
National	3	6	2	4	0
Education					
Global	2	5	5	0	0
National	4	7	5	2	0
Employment and inclusive growth					
Global	3	7	1	6	0
National	6	7	2	1	4
Energy and infrastructure					
Global	2	8	4	2	2
National	1	3	0	1	2
Environment and disaster resilience					
Global	3	5	2	0	3
National	3	8	0	0	8
Governance					
Global	5	9	5	0	4
National	3	6	6	0	0
Global partnership					
Global	2	6	6	0	0
National	2	5	1	0	4
TOTAL	**39**	**81**	**35**	**19**	**27**
Global	**20**	**45**	**25**	**11**	**9**
National	**19**	**36**	**10**	**8**	**18**

Source: Kilama *et al.* (2016).

It is also important to note some further key considerations in regard to data availability. Increasing the speed of data collection is important in order to make data available more quickly. In this context, use of new technologies, such as mobile phones, may offer an important solution for collecting and disseminating data. It was therefore noted that this "data revolution" has a potential role to play in addressing key data gaps, particularly in such areas as gender-based violence, peace and security, and justice and human rights. However, as much as it is welcome, this new approach may also lead to challenges with regard to effective adoption.

2.2 Data Format

The main areas of concern in the case of data format were primarily related to the level of disaggregation and the lack of use of the "national master sample" during data collection. In regard to levels of disaggregation, government agencies (namely NBS and the Office of the Chief Government Statistician (OCGS)) collect data mainly through/from large, national level surveys. Other organisations collect data mainly from sector-specific surveys that are mostly centred on a particular location. While the data collected at the national level is important in monitoring indicators, such data is limited in its disaggregation, because it is disaggregated at only the national level. In the case of Tanzania, a vast country with large regional differences, disaggregation to a lower level would be very helpful to understand location-specific dynamics. On the other hand, data

collected by other agencies also faces a similar challenge. While such data complements well with the data produced by national agencies, most such datasets neither allow disaggregation below lower level government, nor among various social groups. In addition, some datasets do not adhere to the national master sample, meaning such data is difficult to compare with national statistics produced by government agencies. Furthermore, as some datasets are specific to a single location, and given the large regional disparities in Tanzania, it is not possible to generalise such data in order to give one indicator for the situation at the national level. Such location-specific factors have a particular bearing on environmental indicators, given that different regions may face different environmental problems, and the same environmental issue may have different impacts in different regions. As a result, determining a single environmental indicator that would allow a common measurement format for all locations, is a difficult challenge.

2.3 Resource Mobilisation

Resource mobilisation was a particular area of consideration as it determines the volume of data that can be produced. This is of particular importance given the increasing demand for statistics to feed into the monitoring of progress made towards the SDG indicators. For national surveys, funding is secured through the Tanzanian Statistical Master Plan (TSMP). Within this plan, there is a schedule for each survey; therefore, the timing is predictable. However, development partners' contribution in financing these surveys is often uncertain due to the shifting context in their own countries or other global factors. For instance, the recent influx of refugees and other migrants into Europe has affected the internal budgets in many countries that fund the TSMP, which may lead to delays or the cancellation of expected funding. Improving internal revenue mobilisation, through the broadening of tax bases, may therefore promote the sustainability of data availability.

Data sourced from other institutions is compiled in datasets collected by private entities, such as research institutions, non-government organisations (NGOs) and other similar organisations. These organisations have to solicit their own funding to finance data collection. Such funding is most often sourced from foreign institutions. This type of data collected therefore depends on the interests/ focus of the institution and of the funder. As the flow of funding in such situations lacks continuity, such datasets suffer from lack of consistency over time, because data is only collected when funding is available and may not necessarily be realised nationwide.

3. Establish a Sustainable, Healthy and Resilient Environment for All

3.1 Current Context

The African Union (AU) *Agenda 2063*, adopted in 2013, calls first and foremost, in Aspiration 1, for "[a] prosperous Africa based on inclusive growth and sustainable development" (AU, 2014). Specific reference is made to the need for Africa to have a healthy environment and "climate resilient economies and communities." This aspiration is supported in a recent report (Hallegatte *et al.*, 2016), which observed that "climate change represents a significant obstacle to the sustained eradication of poverty, but future impacts on poverty are determined by policy choices: rapid, inclusive, and climate-informed development can prevent most short-term impacts whereas immediate pro-poor, emissions-reduction policies can drastically limit long-term ones."

This goal "establish a sustainable, healthy and resilient environment for all" falls under several of the newly-adopted SDGs, most notably SDGs 1, 8 and 9.

• SDG 1: "End poverty in all its forms everywhere." A target of this goal is to, "by 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters."

- SDG 8: "Promote inclusive and sustainable economic growth, employment and decent work for all." A target of this goal is to "improve progressively, through 2030, global resource efficiency in consumption and production and endeavour to decouple economic growth from environmental degradation, in accordance with the 10-year framework of programmes on sustainable consumption and production, with developed countries taking the lead."
- SDG 9: "Build resilient infrastructure, promote sustainable industrialisation and foster innovation." A target of this goal is to "by 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities."

In addition to these three SDGs, SDG 11, which concerns making cities and human settlements inclusive, safe, resilient and sustainable, also has a relevant, noteworthy target, which is to "by 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management."

During both the UN's launch of the SDGs in Tanzania and the NBS-organised stakeholder meeting on SDG implementation and monitoring (held on 8 October 2015), government representatives emphasised the need to focus on the economic, social and environmental aspects of sustainable development.

Domestically, there exists a number of relevant legislative acts and strategies, including the Environmental Management Act (EMA) (URT, 2004). The EMA's provisions include the assigning of institutional responsibility with regard to environmental management, environmental impact assessments, strategic environmental assessments, pollution prevention and control, waste management, environmental standards and environmental reporting, as well as enforcement of provisions and the establishment of the National Environmental Trust Fund. Tanzania continues to strive toward mainstreaming the provisions of various regional and international environmental agreements and conventions into domestic development frameworks. For instance, the environment has been mainstreamed in all iterations of the country's MKUKUTA, which complements utilisation of the Global Environment Facility (GEF) and other financing streams, such as the Green Climate Fund (GCF) and the Least Developed Countries Fund (LDCF) (which is raising and allocating resources for environmental projects and capacity building in developing countries).

The principle of 'common but differentiated responsibilities and respective capabilities', which takes into consideration the historical context with regard to responsibility for climate change, has provided a strong impetus for actors to pursue 'climate finance,' especially for the purpose of adaptation and mitigation efforts in developing countries. However, it is clear that the international adoption of emissions trading (the 'carbon market'), an approach propagated by industrialised nations, does not provide the required solutions to this challenge. It is not at all certain whether development and/or industrialisation will be possible should temperatures rise above the 2 degrees Celsius threshold, with such an eventuality expected to severely hinder production. Financing a transition to clean energy, which would require alternative use of already committed investment, would greatly help limiting greenhouse gas emissions and maintaining temperature increase to below 1.5 degrees Celsius – indeed, this is a key focus for developing nations. However, the availability of local resources to facilitate such a transition cannot be guaranteed, and dependency on international markets threatens the sustainability of any such initiative.

Over the coming years, Tanzania is expected to be increasingly affected by climate change. Key environmental indicators should therefore be related to national development priorities (such as sustainable energy and agricultural sector productivity), and should take into consideration natural resources (such as water, forestry and biodiversity) that are expected to be severely impacted by increasing temperatures with detrimental effects on health and livelihoods. Consultations, both those led by the government and those undertaken by REPOA as part of the Southern Voice initiative,

were important in identifying such relevant indicators. These consultations also highlighted that the environment is a complex theme that is intertwined with both socio-economic and ecological issues. Monitoring of environmental indicators therefore tends to be information and process-intensive (with a need for both socio-economic and more scientific-based data), as well as expensive to undertake. A further challenge is access to data. At the macro-level, it is important to access information on the environmental and natural resources; however, as this is very closely related to numerous extractive industries (e.g. timber, oil, gas, fisheries, wild animal products (e.g. ivory) and minerals), it may not be possible to easily obtain data on these areas because it is almost certain that such information will not be disclosed. Table 2 provides a summary of the selected indicators from Phase I.

Table 2: Establish a Sustainable, Healthy and Resilient Environment for All: Tentative Targets and Indicators

Target	Indicator
Global	
Build resilience and reduce deaths from natural hazards	Deaths as a result of disaster (per 1,000 inhabitants)
Safeguard ecosystems and biodiversity	Net loss in forest area (% of land area)
	Trends in coverage of protected areas
Publish and use economic, social and environmental accounts (in all government agencies and companies)	Share of large tax unit taxpayers using integrated reporting
	Existence of national and sub-national government publishing according to the 'Environmental-Economic Accounting' system
National	
Publish and use economic, social and environmental accounts in all government agencies and large companies (capital in excess of USD 100 million or equivalent), by 2030	Proportion of government departments and large companies (capital in excess of USD 100 million or equivalent) publishing economic, social and environmental accounts
	Existence of regulations that require government departments and large companies (capital in excess of USD 100 million or equivalent) to publish details on economic, social and environmental accounts
Mainstream environmental sustainability into all government policies, strategies, budgets and plans	Number of operational/functional national programmes or action plans incorporating sustainable production and consumption
	Enterprises undertaking environmental assessments and complying with relevant standards
	Number of experts certified to conduct environmental assessments
Safeguard ecosystems, species and biodiversity	% of endangered native plant and animal species and % of secure native plant and animal species
	Mountain ecosystems and biodiversity secured
	Marine ecosystems and biodiversity secured

Source: Kilama *et al.* (2016).

3.2 Challenges and Opportunities

Climate change is likely to compound the already existing problems of land degradation, deforestation, and loss of wildlife and habitats. Significant funding is now needed not only to address current environmental risks, but also to relieve adaptation deficits, which is essential for reducing the negative future impacts of climate change. Tanzania lacks the technical capacity to develop and procure clean energy, and further thinking is required as how to finance the transition from fossil fuels to renewable energy, capitalising not only on R&D, but also on the use of pricing instruments. It is worth noting that improvements in renewable energy provision and other time-reducing innovations will greatly assist women, who play a major role in the care economy, and promote their fuller engagement in the productive sectors. Environmental efforts in Tanzania depend heavily on donor funding, which is very unlikely to be sustainable (given the potential for 'moral hazard'), and

which will develop and have to the extent that environmental protection obligations are integrated into economic activities. In this regard, support for conservation tends to be integrated with development, as well as reducing vulnerability of the poor through building their adaptive capacity. These objectives can only be achieved through the adoption of an innovative approach that builds on existing experiences and knowledge. An important first step to ensuring the development of environmental resilience is to acknowledge the risks arising from climatic variability in the design of development projects and programmes. This is the only way to produce more robust projects and programmes that can adequately cope with identified environmental challenges. Tanzania should further develop its national climate change strategy towards climate-resilient, low-carbon growth. An integrated strategy will encourage synergies, and reduce conflicts, and ensure that Tanzania can take advantage of opportunities from international negotiations.

Key informants were of the view that:

- The tracking of environmental data and evidence for key indicators is both process-intensive and financially-intensive, and requires specialised scientific knowledge and skills. In particular, the poverty-development-environment nexus requires widespread targeted awareness-raising in order for the right tools, mechanisms and policies to be put in place to support the tracking of environmental indicators. In the absence of a clear understanding of this nexus, policies and programmes will fail to reflect trackable poverty-environment dynamics that can be used as indicators for the desired developmental results.
- Most of the available environmental data is point data, meaning it does not cover the whole country, and as a result is incapable of adequately portraying the full situation in reality. It is recognised that collecting data, for example, on air quality, land degradation and water quality for the entire country is not easy.
- Resources allocated, including funds, are insufficient for data collection needs at the national level.
- The environment is such a broad area that no single entity can manage all environmental data. Unfortunately, at present, effective coordination between environmental data producers and holders is a challenge, given that, for example, data is captured and stored in different formats (which is especially the case with spatial data), and there is an unwillingness to share data freely.
- It is not true that environmental indicators are the most difficult indicators for which to gather data. At the micro-level, large amounts of environmental data (both academic and development-oriented) have been generated, particularly due to the inception of environmental sustainability and sustainable development paradigms. The main problem is achieving complete coverage across the country for specific environmental indicators. Indeed, the major challenge in this respect is related to a tendency to aggregate data requirements (and design tools and methodology) when collecting data on the environment.

3.3 Proposed Solutions

- There are existing efforts (both internationally and locally) that should build upon to ensure that monitoring and evaluation (M&E) of the environment is strengthened, including national policy frameworks and initiatives such as the Poverty-Environment Initiative (UNPEI) (which is jointly undertaken by UNEP and UNDP). At the country-level, through the UNPEI initiative, there were some efforts made to support the integration of poverty-environment linkages in the FYDP and the MKUKUTA I and II, including the inclusion of poverty-environment indicators in their respective monitoring systems (this was especially the case with MKUKUTA). Many lessons have been learned from this experience. These can now be developed, strengthened and scaled up for the purposes of national development frameworks, and consequently the relevant SDGs.
- One of the most important lessons that should be taken forward is ensuring the setting aside of sufficient resources (both financial and technical) to support the availability and tracking of the data required for the set indicators.

- Disaggregation of environmental data to the most detailed level is needed (for instance, data on sectors (such as agriculture, forestry, fisheries, land, etc.), habitats, ecosystems, locations, access and use rights, gender, economy, social and ecological incentives) as well as using the appropriate tools and targeting in terms of selecting respondents is also needed. Such data should also take into consideration, among others, social, cultural, political and economic sensitivities.
- It would be useful to conduct research on the economic valuation of environmental and natural resources, and of ecosystem services and their economic contributions to livelihood improvement as a per cent of national gross domestic product (GDP). Investment that supports R&D in order to encourage studies regarding best practices in renewable energy would also be beneficial.
- Elevate resource allocation, in particular funds that enable data collection, at all levels of the country.
- Promote sustainable financing that entails reducing wasteful subsidies and promoting the supporting role played by national budgets. Tanzania may also want to look into tapping into the Green Climate Fund, the Adaptation Fund, and the Least Developed Countries Fund. Nevertheless, greater emphasis should be placed on domestic funding streams as part of development planning.
- Strengthen collaboration and communication between environmental data producers and holders in order to increase understanding of which bodies have access to which information, and to share understanding of how to access such information.
- Encourage innovation, for example, by promoting initiatives that would allow households to feed their solar-generated energy back into the main grid and receive payment for this investment, as already occurs in the Netherlands. This would particularly help to alleviate the costs associated with energy storage, which continues to be a challenge despite the significant decrease in the overall costs of using renewable energy.

4. Establish Open, Accountable, Inclusive and Effective Institutions, the Rule of Law, and a Peaceful and Inclusive Society

4.1 Current Context

The AU 'Agenda 2063' Aspiration 3 calls for "[a]n Africa of good governance, democracy, respect for human rights, justice and the rule of law" (AU, 2014). In particular, it is stated that Africa will be "a continent where democratic values, culture, practices, universal principles of human rights, gender equality, justice and the rule of law are entrenched." Further, Africa will have "capable institutions and transformative leadership in place at all levels," and "corruption and impunity will be a thing of the past."

Key informants interviewed during the research were of the view that, politically speaking, this is one of the most sensitive topic areas to explore. Specific governance issues relate to issues of transparency, accountability and citizen empowerment; issues that many stakeholders may not wish to openly discuss for fear of scrutiny. As a result, it is expected that it may not be possible to easily obtain data in these areas because some of such data and information will be categorised as "classified and sensitive information", and will not therefore be disclosed. Nevertheless, good governance, which was an area absent from the MDGs, was considered by all government consultative groups to be a key concern for sustainable development. Therefore, capacity building in this area is vital, both at the national and local levels.

Governance has been defined as "the exercise of political, economic and administrative authority to manage a nation's affairs at all levels" (UNDP, 1997). Good governance is a function of successful interaction among key state institutions on the one hand, and their interface with civil society (including the private sector) on the other. Good democratic governance is the bedrock of growth, poverty eradication and sustainable human development. It entails a respect for key moral, ethical and cultural values; respect for the rule of law, human rights and rights to development; absence of widespread corruption; and determination and ownership of a society's own development agenda.

As mentioned, the MDGs did not explicitly address governance issues. Instead, this topic was subsumed under MDG 1 (eradication of extreme poverty and hunger) and MDG 8 (developing a global partnership for development). Only good governance practices will promote both the mobilisation of local and external resources, and their prudent utilisation for pro-poor growth and development (URT, 2013). It is proposed to prioritise governance in the post-2015 global development framework as it forms the centre of the core values of human rights, equality and sustainability. The "National Post-MDGs Development Agenda Consultations: The National Synthesis Report" therefore addressed key governance issues that had been identified as primary concerns in the post-MDGs stakeholder consultations. Such issues included democracy, decentralised governance, participatory development management, transparency and accountability, and the rule of law and human rights. The synthesis report benefited from the Tanzania Development Vision 2025 and the Long-term Perspective Plan, both of which underscored the centrality of improved governance for growth and development. In particular, these envisage: (i) the prevalence of the rule of law; (ii) government accountability to the people; (iii) the deepening of democracy, political openness and tolerance; (iv) maintaining peace, political stability, national unity and security; and (v) active participation in the maintenance of regional peace and security.

Since the political changes of 1992, Tanzania has witnessed improvements in the case of political, economic and administrative governance, particularly in the areas of democracy, political tolerance, national cohesion and the business climate. After years of political acrimony and tension in Zanzibar, especially after the 2000 elections, an inclusive government of national unity has, since 2010, stabilised Zanzibar politics and ended social tensions. Practices of good democratic governance are emerging, with sustained peace and security and macroeconomic stability. Political leaders are, by and large, freely elected through inter-party competition, albeit in some cases in uneven playing fields. There is vibrant print and electronic media that promote civic education and are active in holding politicians to account. More significantly, various governance institutions have been established, including the Electoral and Human Rights Commissions. Table 3 provides a summary of selected indicators from Phase I.

Table 3: Establish Open, Accountable, Inclusive and Effective Institutions, the Rule of Law, and a Peaceful and Inclusive Society: Tentative Targets and Indicators

Target	Indicator
Global	
Provide free, universal legal identity (e.g. birth registrations)	% of children under five years of age who are registered with the civil authority
	% of adults with a basic legal identity document
Monitor and end discrimination and inequality on the basis of social status in regard to: • public service delivery • the rule of law • access to justice • participation in political and economic life	Average time between filing a case and receiving a verdict
	% of seats held by women and minorities in national and local level government
	% of adults with an account at a formal financial institution, disaggregated by gender
Improve personal safety	Prevalence of violence against women, including domestic violence
	Number of violent deaths (per 100,000 people)
Reduce bribery and corruption in all its forms	Survey data regarding bribes or gifts given to secure the service of a government official (question example: "In the past year, how often (if ever) have you had to pay a bribe, give a gift, or do a favour to government officials in order to get a document or receive a service")
Improve transparency in the revenue system	% of eligible taxpayers who submit their taxes

(Table 3 contd.)

(Table 3 contd.)

Target	Indicator
National	
Respect for human rights	% of people belonging to social groups
	% of people who enjoy their freedom of speech
	% of people free to join a political party
Respect for the rule of law and improved access to justice	% of court cases outstanding for two or more years
	Number of available attorneys and access to those attorneys
Provide free, universal legal identity (e.g. birth registrations) by 2030	% of new-borns registered at birth

Source: Kilama *et al.* (2016).

4.2 Data Availability for Selected Indicators: Present Challenges and Moving Forward

% of children under five years of age who are registered with the civil authority

The first source of data for this indicator is the National Panel Survey. This survey involves a series of nationally-representative household panel surveys that collect information on a wide range of topics, including agricultural production, non-farm income-generating activities, consumption expenditures, as well as a wealth of other socio-economic characteristics.

The second source of data for this indicator is the national census, which is conducted every ten years. In the census, one of many questions asked concerns birth certificates. Data is here disaggregated by locality, gender and age.

The main challenge with these sources is that they by are not produced on annual basis, meaning that they can only provide indicative trends. It is likely that this routine data system can be enhanced to collect data from, for instance, village registers. Every month, all Village Executive Officers (in rural areas) and Street Executive Officers (in urban areas) are required to submit information on births, deaths, education, migration, as well as other developments taking place in the village. Another example is the routine data gathered during and after childbirth in health centres. In order to monitor the SDGs successfully and fill the identified information gaps, data are required to be combined, advanced and harmonised from other sources, including from unofficial data sources. This will be achievable if the government, development partners and other stakeholders allocate more funds and enhance institutional capacity building.

Share of adults with a basic legal identity document

The first possible source of data for this indicator is the National Identification Authority (NIDA). Its core functions include the identification and registration of persons above 18 years of age, the issuance and management of ID cards, the management and maintenance of the persons register, and the provision of information from the register. Since the introduction of registering and offering of ID cards (approximately three years ago), less than five million people have been reached (mostly in Dar es Salaam), falling significantly below the expected target of more than 22 million people. The emerging lesson from this is that the government needs to invest more in the varied resources required to implement the initiative across the country.

The second possible source of data for this indicator is the National Electoral Commission (NEC). Its core functions include supervising and coordinating the 'Registration of Voters (18 years and above)' initiative, as well as the conducting of presidential and parliamentary elections in the United Republic of Tanzania (URT) and the council elections in mainland Tanzania. The NEC has to date managed to register more adults than the NIDA. Therefore, perhaps the 2015 NEC figure can

be used as a baseline, which later on be switched to NIDA to continue to register all Tanzanians. Funding shortages were stated to be the most critical challenge in a speech by the Chairman of the NEC Tanzania, the Honourable (rtd) Justice of the Court of Appeal, Damian Z. Lubuva, in a meeting between the NEC and members of the Independent Electoral Commission of Lesotho (NEC, 2015). The under-funding of this particular Commission has resulted in inconsistencies in the updating of their database. Indeed, the Commission may experience more than five years without conducting the registration of any new voters. In order to meet the need for more frequent updating of data depends not only on donor funds but also on the allocation of a sufficient budget by the government.

Average time between filing a case and receiving a verdict, % of court cases outstanding for two or more years, and the number of available attorneys and access to attorneys

Data on these three indicators can be obtained from the Judiciary of Tanzania. Administrative records provide an important source of statistics for the most routine data. Government ministries and departments are the main producers and owners of these administrative databases. However, while the judiciary should have data on these three indicators, the challenge is organising the data in a manner in which it can be presented to yield the intended outcome. Currently, the data available from the judiciary is in itself inadequate as records are still stored in hard copies. Indeed, according to the International Records Management Trust – IRMT (2011), there is a severe shortage of space for the storage of records. In some courts, records of completed cases are simply heaped in court rooms due to the lack of adequate storage space, and many other paper files have been left on the basement floor, unarranged and in a condition that means the required data is almost irretrievable.

In general, there is a lack of harmonisation and disaggregation of data (from the local to the national level). In this regard, official interventions are needed to support data production and quality, storage, and access. Data should be organised in a meaningful and understandable way, and stored in an accessible system.

% of seats held by women and minorities in national and local level government

Information for this indicator is available for the national parliament. However, such information is not available at the local level. Easy access to data at the local level needs to be addressed and realised. Such information needs to be disaggregated by gender, locality, minority groups represented, and appointment date.

% of adults with an account at a formal financial institution, disaggregated by gender

Information on this indicator is available from the FinScope Tanzania Survey. This survey measures the demand for, and access and barriers to, the full range of financial services offered in a particular country. It is a nationally representative survey that is conducted in several countries throughout Africa and Asia. Three rounds of the Tanzania FinScope Survey have been conducted to date (in 2006, 2009 and 2013). The data on the percentage of adults with an account at a formal financial institution is disaggregated by gender. Under the Tanzania's Statistics Act 2015, the government should permit timely data collection by private organisations and international entities, and promote quick access.

It should also be possible to gather data on this indicator from the Bank of Tanzania (BoT), as financial institutions (including banks) are required to submit their financial statements annually. However, the main challenge in this respect is that it is very difficult to locate people with accounts in different banks held under different names.

Prevalence of violence against women, including domestic violence

Gender and Children's Desk ("Dawati la Jinsia na Watoto") established in police stations can assist in providing relevant data on this indicator. Such a service, if rolled out to all police stations, would

ensure all women and children, who have been subject to physical and sexual abuse, can report such cases to specially-trained policewomen. This would be in line with the authorities' efforts to tackle gender-based violence in Tanzania. Tanzanian police launched an action plan to establish such Gender and Children's Desks which provide confidential spaces in police stations where victims of gender violence can file their complaints to female officers. However, at present, this service is being established only in a limited number of police stations in the country, with these being particularly centred in cities and other urban areas. Further, the service is facing critical challenges including poor or no infrastructural support and a limited number of trained personnel. It is also unclear how data is managed and organised. Therefore, there is a need for stakeholders to provide financial, technical and technological support to enhance data collection and production methods, ensuring that such methods are rigorous, and that the resulting data is packaged in a meaningful and accessible manner.

Number of violent deaths (per 100,000 people)

It has been identified that it is difficult to gather data for this indicator.

Survey data regarding bribes or gifts given to secure the service of a government official

A good example of a survey that can provide data on this indicator is the "Court Users' Satisfaction Survey 2015." This survey was the Judiciary of Tanzania's first attempt to establish baseline indicators for operational reforms that sought to ensure better service provision to clients. This baseline survey captured people's views on the current state of service delivery and their level of satisfaction with different aspects of court services. The survey also collected opinions on priorities and areas for improvement that require particular attention from the judiciary. This survey was conducted in 13 regions (20 districts) of mainland Tanzania. The regions and districts were chosen by the judiciary to represent its six zones of operation. All court tiers participated in the interviews (including 60 Primary Courts, 18 District Courts, two Resident Magistrate Courts, five High Court Branches and the Court of Appeal). However, for the data to be useful it requires recognition from the NBS and dissemination among data users.

Share of eligible taxpayers who submit their taxes

The Tanzania Revenue Authority (TRA) was established by Act of Parliament No. 11 of 1995, and started its operation on 1 July 1996. In carrying out its statutory functions, the TRA is regulated by law and is responsible for impartially administering a range of central government taxes. As relevant data is mostly produced for administrative reasons, there is a need to use advanced data collection methods and ensure optimum disaggregation of data, as well as for the data to be official, harmonised and approved by the NBS so as to be accessible by the wider population. Capacity building in terms of technological innovation of data quality production methodologies, storage and sharing should form part of the strategy for dealing with existing challenges.

% of people belonging to social groups, % of people who enjoy their freedom of speech, and % of people free to join a political party

Data sourced from Afrobarometer can be used for the above three indicators. Afrobarometer is a pan-African, non-partisan research network that conducts public attitude surveys on democracy, governance, economic conditions, and other related issues across more than 30 countries in Africa. The survey is conducted biannually, with data disaggregated by gender, age, socio-economic group, and locality. It is a perception survey with questions including (i) "In this country, how free are you to say what you think?" and (ii) "In this country, how free are you to join any political organization you want?" The main challenge surrounding this survey is the inconsistency of questions asked from one round to another.

% of new-borns registered at birth

The Registration, Insolvency and Trusteeship Agency (RITA), located in the Ministry of Justice and Constitutional Affairs, is responsible for the registration of births, divorces, deaths, adoptions and marriages in mainland Tanzania. The RITA has developed an "Under-Five Birth Registration Strategy," which aims to significantly increase the proportion of children under five years of age with birth certificates. This initiative also aims to establish an efficient and effective decentralised registration system in the mainland Tanzania that will shift the registration function from central to local government. Implementation of this initiative will build on existing health and local government systems. Specifically, this will involve harmonising and strengthening both the mother and child health and local government systems for registration and certification into a one step, unified process. Under the initiative, hand-written, free-of-charge birth certificates will be issued to all children under five at all mother and child health facilities and all offices of the Ward Executive Officer. Should an electronic certificate be requested, this will be available for a fee at the office of the District Executive Director. To date, the initiative has been launched in Mbeya region and will be rolled out to all councils in this region, before later being rolled out to all other districts in mainland Tanzania. In order to meet the initiative's targets, more resources (fiscal, technical, technological, etc.) need to be allocated. In particular, community education is crucial to raise awareness of the need to register children in a timely manner, especially given that not all women give birth in health centres.

4.3 Key Data Collection Considerations

The need to report on and monitor development efforts throughout the world has increased the demand for statistical information. Africa, and Tanzania in particular, is no exception, especially given the need to implement, monitor and report on the country's development agenda.

Data harmonisation within NSSs, within international organisations, and between NSSs and international organisations is imperative for SDG monitoring, as it addresses both the identified data gaps and data differences. To improve the situation at the national level, coordinating bodies on SDG implementation in different countries must be established and strengthened. The parties involved should include national statistical offices (NSOs), all national ministries and agencies producing SDG-relevant indicators, and UN Country Teams. An SDG focal point should be appointed in each NSO to coordinate these parties.

To ensure the effectiveness of NSOs, the Tanzanian government needs to provide generous organisational and institutional support, as well as establish stronger legal frameworks that are in accordance with the National Strategies for the Development of Statistics (NSDSs). According to this initiative, NSOs should have a legal framework that empowers them to operate independently and effectively under a competent and professional policy board. They should be able to coordinate and harmonise the nation's statistical activities, and ensure the production of useful, usable and timely data for all stakeholders, including UN agencies. The legal establishment of producer-producer and producer-user committees is another way to enhance data quality and facilitate data production and dissemination (Sanga, 2011). NSOs also have responsibilities, among others, to coordinate their activities and harmonise their methods with the international community. Such steps will help to eliminate conflicting data, eradicate discrepancies and facilitate timely data transfer to stakeholders.

Targeted activities and programmes can be used to enhance the capacity of member countries to produce and disseminate accurate, comparable information on SDG indicators, and reduce discrepancies between data collected at the national and international levels. SDG monitoring at a level other than the national level still requires that such data be comparable across countries. Furthermore, definitions, concepts and standards used need to be consistent. A harmonised reporting mechanism is therefore required. The resulting "global database" will be the authoritative

source of information on SDG monitoring at the international level, with those organisations tasked with compiling the information (from individual countries) required to cross-check the data and ensure harmonisation and comparability through adjustments, imputation, modelling, etc. It is necessary that the methods and procedures used by international agencies for adjustments, imputations and estimations are transparent. Also, it is crucial to conduct effective consultation to ensure that estimates are useful and agreed by member states. In addition to these steps at the international level, SDG monitoring at the national level is important as it guides decision-makers and policymakers in targetting interventions.

5. Conclusion

The UN's pledge that "no one will be left behind" in the achievement of the SDGs (UN General Assembly, 2015) is both valiant and aspirational. In unpacking SDG data challenges in the Tanzanian context, this paper has given particular attention to the two key goal areas of environment and the governance. Findings reveal the existence of challenges in regard to capturing information on environment and the governance, and highlights calls for innovative data collection ideas from countries in the developing world. It is indeed evident that conventional ways of obtaining data may be both inappropriate and insufficient in capturing the requisite information. In order to resolve such issues, a number of interventions are needed:

- Build human resource capacity to develop and capture such complex variables for measuring the progress of SDGs. Such capacity building is needed not only in the central statistics office (NBS) but also at the lower administrative levels (village, ward, district and regional levels). This should entail particular involvement from local government (President's Office – Regional Administrative and Local Government (PO-RALG) (e.g. in the areas of health, education, land management, environment, good governance, agriculture, and public financial management).
- Provide adequate financial support to enable monitoring across the entire country.
- Develop strong institutions that can both monitor key indicators and penalise those complicit in the destruction of the environment (in particular, large multinationals which work in the extractive industry).
- Ensure that the NBS works with other data producers to compile a comprehensive and credible list of indicators that are representative at the national level.
- Ensure that the national, regional and international initiatives are planned in harmony to avoid duplication of work (which is especially important given the already limited capacity in state institutions).

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