AN EXPLORATION OF KEY PERFORMANCE INDICATORS FAVORED BY GOVERNMENT AND CIVIL SOCIETY IN THE TANZANIAN EDUCATION SECTOR

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Abstract: The study explored priorities of Civil Society Organizations (CSOs) and those of the Government of Tanzania (GOT) through the 2018 Joint Education Sector Review (JESR). The Tanzanian Education Network (TEN/MET) was used as a sample frame to derive opinions on priority indicators from the general population of CSOs in the country. The twenty-seven (27) Key Performance Indicators (KPIs) outlined in the 2017 Education Sector Development Plan (ESDP) compared indicators of 'access' and alternatively those of 'input', 'process', 'output' or 'outcome' according to United Nations Development Programme (UNDP) standards. Semi-structured interviews with a stratified sample of eight (8) TEN/MET member organizations were used to develop twelve (12) new indicators which were interspersed with twelve (12) existing Government indicators in a ranking survey of thirty-three (33) TEN/MET members. The findings reveal a balance of 'access' indicators, representing 52% of KPIs in the ESDP, weighted means of 2.76 versus 2.77 in the TEN/MET member survey, and 43% versus 38% being reported as on target through the 2018 Joint Education Sector Review. The data shows a skew towards process indicators versus outcome indicators both by the Government of Tanzania and TEN/MET members. Process indicators represented 52% versus 7% of outcome indicators in the ESDP, had weighted means of 3.10 versus 2.50 in the TEN/MET member survey, and 50% versus 0% were being reported as being on target through the 2018 Joint Education Sector Review. The study concludes that both the GOT and TEN/MET members undervalue output and outcome indicators.

Keywords: Tanzania, Education, Quality, Indicators, CSO

1. Introduction

1.1 Background

Over the last two decades the key priority in Tanzania's education sector has been to ensure that all children are in school, especially those of primary school going age (World Bank, 2015). It has been observed by both by state and non-state actors however that successes in driving access to education have been matched by a negative correlation in learning outcomes (Sumra & Mihayo, 2015). Uwezo findings over three years indicated consistent underperformance by children with only half the children in Standard 3 able to read a simple Kiswahili text (Uwezo, 2015). This was matched by poor performances of students in national examinations conducted by the National Examinations Council (NECTA). In the 2014 Primary School Leaving Examinations for example, only 57% of children sitting the exam passed (Sumra & Mihayo, 2015).

The UN Sustainable Development Goal 4 (2015) aims to "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all". The advent of this goal created a raft of indicators which

may be used to collect and disseminate data on quality education and progress towards improved service delivery. Specifically, the Sustainable Development Goal 4 set out 11 indicators which may be added to and augmented by national governments to suit their needs (United Nations, 2018).

The 2017 Tanzanian Education Sector Development Plan (ESDP) aims to address deficits in quality and match gains made in access to education with a rise in the quality of education outcomes. This is aligned with the Tanzania Development Vision 2025, the National Five-Year Development Plan 2016/17-2020/21 and the Education and Training Policy of 2014. The ESDP sets out the need for enhanced effort on improving the quality of education at all levels. The plan sets out a list of 27 Key Performance Indicators (KPIs) which will be used to track targets of quality in achieving these policy initiatives. It also indicates that progress towards achieving targets will be tracked through a rigorous Monitoring and Evaluation Framework (MoEST, 2017).

First outlined in the former 2008-2017 Education Sector Development Plan, the annual Joint Education Sector Review (JESR) is considered to be the main forum which brings together Government Officials, Development Partners and Civil Society Organizations to review progress of agreed upon sector priorities and decide the way forward for implementation of joint milestones. JESRs are therefore one of the key forums through which civil society organizations are currently able to engage with the national education agenda and to drive social accountability in the system (GPE, 2018).

Joint Education Sector Review targets produced from annual meetings are essentially standards agreed and set by the state and civil society. They represent measures of shared responsibility in generating improvements in quality education for the forthcoming year. Evidenced decision making requires up-to-date education information and financial data from the year under review, related to "whether targets were met, the challenges and bottlenecks encountered, and even the usefulness of different indicators and related interventions" (GPE, 2018). For JESRs to be responsive and forward-looking there is a need for reliable and comprehensive evidence base to inform planning assumptions and decision making.

1.2 Problem Statement

Recent approaches to generating improvement in national education systems are underpinned by a Theory of Change (ToC) which identifies social accountability as the link between use of indicators and ultimate enhancement of quality education (Read & Atinc, 2017). Despite the implementation of two national Education Sector Development Plans since 2000, it is reported that Civil Society Organizations (CSOs) now believe that the most serious problem facing the Tanzanian education sector is not access, but poor learning outcomes (Sumra & Mihayo, 2015). As part of the 2017 Education Sector Development Plan (ESDP), 27 Key Performance Indicators (KPIs) are set out to track targets towards achieving policy initiatives. The ESDP also indicates that progress towards achieving targets will be tracked through a rigorous Monitoring and Evaluation Framework (MoEST, 2017). As part of the plan, CSOs have the ability to take part in participatory governance structures in order to boost social accountability and drive successful outcomes. As the largest coalition of education CSOs in Tanzania, the Tanzanian Education Network (TEN/MET) has a stated objective to influence policies and practices on basic education for all in Tanzania in a collective and informed manner (TEN/MET, 2019). The annual Joint Education Sector Review (JESR) is then considered to be the main forum through which stakeholders may review progress of agreed upon priorities and decide upon annual joint targets (GPE, 2018).

The purpose of this study was to explore the priority given to Key Performance Indicators (KPIs) of education improvement by TEN/MET member organizations and the Government of Tanzania through the Joint Education Sector Review. By doing this, the study aimed to identify areas where greater consensus may be

reached to strengthen shared responsibility, set appropriate targets, and drive improvement of ultimate education service delivery in Tanzania.

1.3 Research Objectives

Overall research objective:

- To explore the extent to which Key Performance Indicators (KPIs) prioritized by TEN/MET member organizations were aligned with KPIs set by the Government of Tanzania through the 2017/18 Joint Education Sector Review.

Specific research objectives:

- To map KPIs presented in the Government of Tanzania Education Sector Development Plan (2017).
- To rank KPIs prioritized by TEN/MET members to use in the Tanzanian education system.
- To explore reporting of KPIs by the Government of Tanzania at the 2017/18 Joint Education Sector Review.

2. Literature Review

A literature review was conducted as a preliminary review of the paradigms surrounding social accountability, participatory governance and use of key performance indicators. An initial theoretical review was undertaken in order to design a conceptual framework for further exploration. The framework was used to guide an interrogation of empirical literature to provide supplementary information on the variables to be explored as part of the study to inform methodologies.
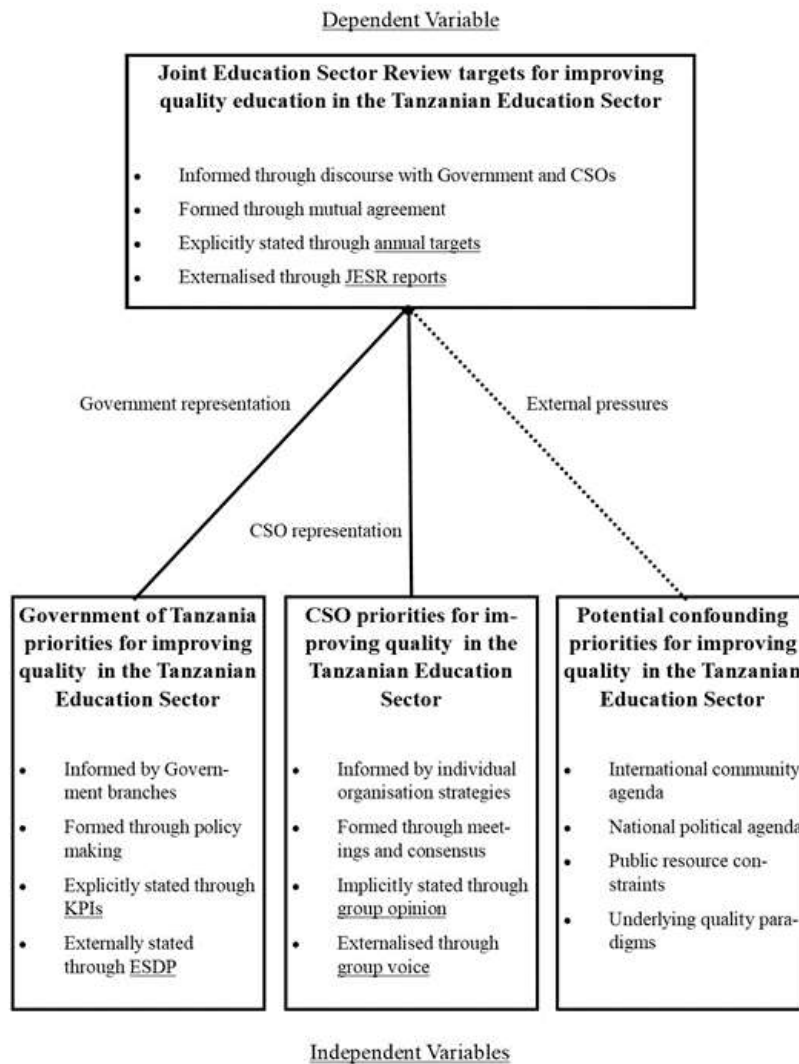
Figure 1 - Conceptual Framework of Education Stakeholder Priorities and JESR Targets
(Source: Original work)

3. Methodology

3.1 Research Design

The study adopted a mixed method design combining both qualitative and quantitative approaches. Successive paradigm (two-phase) triangulation was identified as a research approach to build greater depth and completeness of results (Sarantakos, 2005). The study was divided into four phases of data collection and analysis, each employing specific sampling techniques and data collection methods.

Phase 1 took the form of a simple desktop analysis of the 2017 Tanzania Education Development Plan (ESDP). During this phase, Key Performance Indicators (KPIs) within the ESDP were coded depending on their type and function. The type of indicator concerned their status as either an 'input', 'process', 'output', or 'outcome' indicator according to UN Development Program taxonomy (UNDP, 2000). The function of the indicator used the same standards to determine whether they were concerned with 'access' to education, or any other formative concept such as 'quality' or 'equity'.

Phases 2 and 3 then used a sample frame of the Tanzanian Education Network (TEN/MET) to deploy a sequential-exploratory model, such that qualitative data was first collected, followed by collection and analysis of quantitative data. The benefit of this design was that it allowed for identification of variables through which to develop a survey instrument for testing the opinion of a TEN/MET members as a population sample (Hughes, 2019). The research focus was on the senior leadership within these organizations as those who set strategic direction and have the authority to operationalize the use of data in the Tanzanian education sector.

Phase 2 involved semi-structured interviews with eight TEN/MET members to gather qualitative data on common indicators proposed for measuring the Tanzanian education system. Responses were coded according to indicator types and function to create a survey for the wider cohort of TEN/MET members to determine indicators identified as priorities. Three indicators were derived for each of input, process, output, and outcome indicator types. In this way, twelve new indicators were derived from the interview data to be interspersed with current government indicators. Three tables were then created to include two government KPIs and two new indicators in varying combinations across six columns. Each column contained one of each of input, process, output, and outcome indicators. Phase 3 then used these tables to create three surveys with different combinations of indicators appearing together to survey TEN/MET members on indicators most prioritized. This multicriteria decision making (MCDM) allowed for indicators to be ranked in overall priority as perceived by members (Vannette, 2019).

Phase 4 then involved desktop analysis of indicators reported on by the Ministry of Education to the 2017/18 Joint Education Sector Review (JESR). This included mapping those indicators which were reported as well as their projected performance relative to 2020 targets. This integrated approach to data collection and analysis across multiple phases was designed to expose patterns in the types and function of indicators given priority at each stage and by each actor.

3.2 Sampling

The Tanzanian Education Network (TEN/MET) has a membership base of 89 member organisations operating at national and sub-national levels (TEN/MET, 2018). The research used this cohort of TENMET organisations as a sample frame, with a focus on senior leadership as those who set strategic direction. Specifically, the sample frame included members of the organisation who have the minimum role of a Project Manager.

Phase 1 used a simple purposive sampling technique as it concerned a desktop study of KPIs outlined as part of the Education Sector Development Plan. Phase 2 employed purposive sampling to select a stratified sample of 8 TENMET organisations operating in Dar es Salaam depending on their size and scope. Phase 3 used quantitative methods and therefore required random probability sampling methods to be employed. The survey was sent to all 89 active TEN/MET member organisation contacts to return the largest possible sample. Phase 4 consisted of desktop analysis of the performance report submitted by the Government of Tanzania for review at the 2017/18 Joint Education Sector Review.

4. Research Findings

4.1 Education Sector Development Plan

Analysis of the 2017 Education Sector Development Plan (ESDP) showed that of the Key Performance Indicators, fourteen (52%) were deemed to be indicators relating to access to education.

Review of indicator types demonstrated a skew towards input and process level indicators as they made up 18 (67%) of the total. Process indicators themselves were the most frequent (52%), followed by output indicators

(26%) and then input indicators (15%). Of the KPIs selected by the Government of Tanzania, only two (7%) were deemed to be outcome indicators. These were down-stream indicators of quality including: "% of TVET graduates with relevant employment one year after graduation" and "% of university graduates with relevant employment one year after graduation".
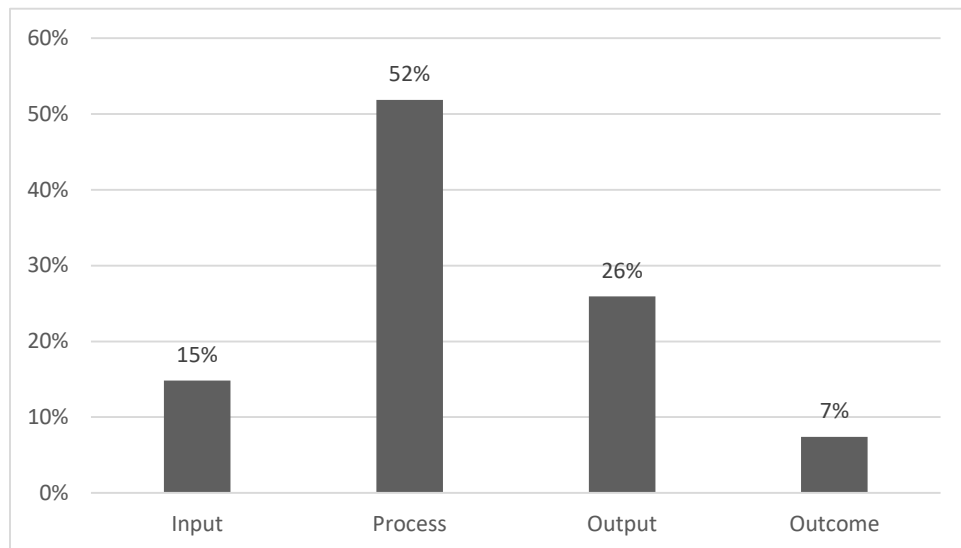

Figure 2. Education Sector Development Plan Key Performance Indicator Types

Figure 2 shows frequency of indicators included within the 2017 Education Sector Development Plan. Process indicators were the most frequent (52%), followed by output indicators (26%) and then input indicators (15%). Of the KPIs selected by the Government of Tanzania, only two (7%) were deemed to be outcome indicators. The data demonstrates a skew towards input and process level indicators as they made up 18 (67%) of the total.

4.2 TEN/MET Member Survey

In total, thirty-three (33) of the eighty-nine (89) members responded to the survey. The results were ranked by combined weighted means of indicators across the three survey layouts. The range of preferences range between a low of 1.93 for "% adult learners achieving a basic level of proficiency in literacy and numeracy skills" and a high of 3.45 for "Number of teachers receiving in service training on inclusivity and child-centered learning". The top ranked indicator in the series was one derived from TEN/MET interviews, but the rest of the ranking displayed an almost exactly even balance between indicators created from member interviews and those already in place in the ESDP. This is reflected in the lack of significant variance between their means of 2.79 and 2.74, respectively.

The data also showed that the surveyed TEN/MET members did not tend to especially favor access indicators over non-access indicators as they were revealed to have means of 2.76 and 2.77, respectively. The data did however show that the surveyed TEN/MET members tended to favor input and process indicator types over output and outcome indicator types. This was evidenced by both input and process indicators having higher than average combined means of 3.09 and 3.10 respectively, while output and outcome indicators had lower than average combined means of 2.37 and 2.50, respectively. Output indicators were particularly overlooked as all six appeared in the bottom twelve ranked positions.

Table 1 - TEN/MET Member Survey KPI Ranking

Indicator Type	Count	Weighted Average	Standard Deviation
Input	6	3.09	0.3157
Process	6	3.10	0.1832
Output	6	2.37	0.2245
Outcome	6	2.50	0.4121
Total	**24**	**2.77**	**0.4486**

Table 1 shows TEN/MET member indicator preferences. Both input and process indicators had higher than average combined means of 3.09 and 3.10 respectively, while output and outcome indicators had lower than average combined means of 2.37 and 2.50, respectively.

4.3 Joint Education Sector Review Data

Analysis of the data submitted to the 2017/18 JESR showed eight indicators (30%) for which data had not been collected for the 2016/17 and 2017/18 years. It was therefore not possible to tell whether these indicators were performing well or not against predetermined targets. In four cases such as 'the % adult learners achieving a basic level of proficiency in literacy and numeracy skills' for example, there was also no baseline collected in 2015/16 from which to compare performance in subsequent years. A further 8 (30%) of the indicators were shown to be underperforming, while only 11 (40%) of indicators were shown to be performing well. Of those, 7 (25%) were deemed to be on course for their 2020 target, and a further 4 (15%) having already achieved their projected target for 2020.

In terms of the spread of indicators, 6 of the 14 (43%) pertaining to access were deemed to be on target compared with 5 of the 13 (38%) of those indicators not pertaining to access. This shows no significant difference in the likelihood of indicators relating to access being on target.

Analysis of indicator types revealed that 2 of the 4 (50%) and 7 of the 14 (50%) indicators pertaining to inputs and process respectively were deemed to be on target. This is compared with 2 of the 7 (29%) and 0 of the 2 (0%) of those indicators pertaining to outputs and outcomes, respectively.

Figure 3. JESR Key Performance Indicator Performance

Figure 3 shows that 2 of the 4 (50%) and 7 of the 14 (50%) indicators pertaining to inputs and process respectively were deemed to be on target. This is compared with 2 of the 7 (29%) and 0 of the 2 (0%) of those indicators pertaining to outputs and outcomes, respectively.
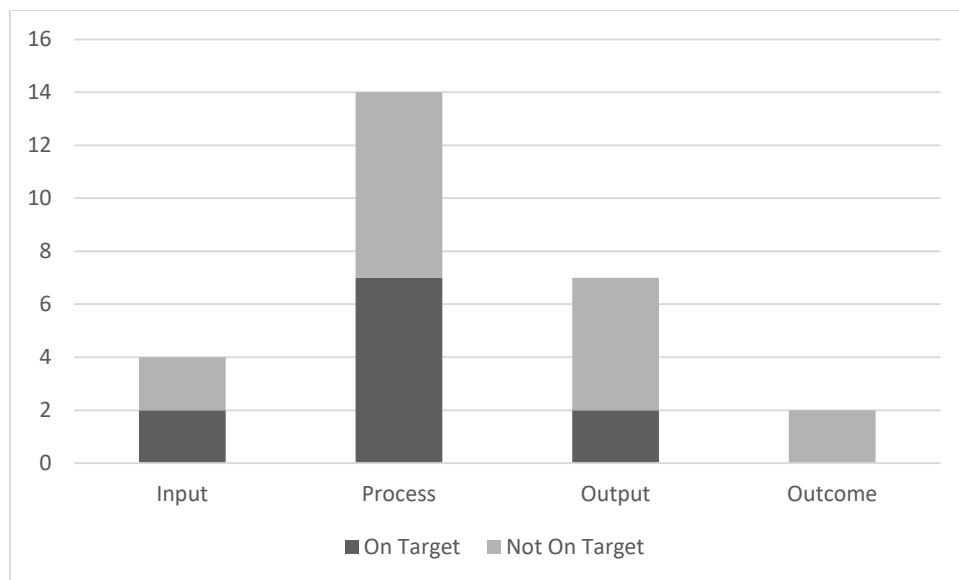
4.4 Comparison of Priority Key Performance Indicators

Ranking of the twenty-four (24) preferred KPIs reported by TEN/MET members alongside their corresponding performance status as of the 2017/18 JESR showed that of the three non-performing ESDP indicators, two could be found in the top 25% of indicators most preferred by TENMET members. These indicators were: "Pupil/Qualified Teacher Ratio in Primary Education (Cycle 1)"; and "% Std II learners achieving the national benchmark in reading with comprehension" respectively. It is evident that these indicators were of high importance to TENMET members and had also been identified as underperforming by the Government of Tanzania, providing potential for common ground in taking action. The one indicator for which no data was collected at the 2017/18 JESR was also deemed to be the least relevant by TEN/MET members. This was "% adult learners achieving a basic level of proficiency in literacy and numeracy skills". This would seem to indicate a focus both by TENMET members and the Government of Tanzania on basic education as opposed to downstream learning outcomes in the adult population.

5. Conclusions and Recommendations

5.1 Conclusions

The data makes clear that the Government of Tanzania remains focused on access to education but with a healthy balance towards other non-access related indicators. This is somewhat contrary to the work of Sumra and Mihayo (2015) as it does show a progression towards indicators of education outcomes as well as those for access. This progression is reflected in triplicate through each phase of the study. Firstly, of the Key Performance Indicators used as part of the Education Sector Development Plan, close to half are related to access. Secondly, these indicators do not tend to be collected any more readily than others. Thirdly, of those indicators for which data is collected, the access indicators do not seem to be performing any better than other indicators against targeted projections. In terms of TEN/MET member preferences, there was also no clear preference for government indicators which prioritized access over other areas of performance in the sector.

Where there is a difference in the data, it demonstrates that the Government of Tanzania is predominantly interested in process indicators of education. This is reflected in the 52% of indicators used as key performance indicators in the Education Sector Development Plan which pertain to processes within the education system. The Education Sector Development Plan next prioritizes output indicators at 26% of the total. When it comes to data collection and performance against these targets however, the Government of Tanzania demonstrates a clear disregard for output indicators, as all but one is either not collected or underperforming. Ironically, the only one which is performing is 'the % of KPIs for which information is presented and analyzed in the yearly statistical abstract'. This is therefore reflective of other indicators being collected regarding inputs, process, and outcomes. Interestingly, TEN/MET members mirrored this tendency towards process indicators, selecting all six within the top half of ranked indicators. Again, like government priority indicators collected on and reported as part of the JESR, TEN/MET members also disregarded output indicators, placing all six in the bottom half of the rankings. Members also showed a strong tendency towards input indicators. This is again unexpected as the post Education for All and MDG agenda has involved the incorporation of a greater plurality of indicators pertaining to outputs and outcomes from the national educations system. It may be concluded from this data however that the Government of Tanzania remains predominantly concerned with input and process indicators. Further, it seems that this tendency is supported to a greater of lesser extent by indicator preferences of CSOs. As reviewed by Komba (2017), a HakiElimu survey in 2007 found that less than 20 per cent of Tanzanians associated education with capability or the changes that a child acquires after the learning process, in effect, the outputs and outcomes of the system. The data supports the idea that the Government of Tanzania and CSOs may both be simply reflecting the wider importance placed on inputs and process by the citizenry, rather than pushing to shift the education paradigm.

The study does offer a very stark example of a situation in which an indicator is not valued by either the Government of Tanzania or CSO partners and therefore receives little focus of attention and is side-lined in terms of resource allocation. The "% adult learners achieving a basic level of proficiency in literacy and numeracy skills" could be posited as an important indicator to be considered as a test of the success of a national education system. However, there seems to be consensus from TEN/MET members that this is not a priority indicator as it was ranked bottom of the list by far when compared with others. Interestingly, this is also then the one indicator in the list for which the Government of Tanzania collected no baseline in 2015/16 and continues to collect no data. It may be concluded therefore that this indicator is unlikely to receive much attention in relation to others and would be expected to fail on its 2020 target.

Despite the general convergence on prioritization of access and process indicators between Government of Tanzania and TEN/MET members, there is an interesting exception to this trend. As part of the survey, TEN/MET members were presented with a balance of Government indicators and those indicators devised by the researcher following interviews with a small selection of members. Rather than tending towards selection of current KPIs set out in the Education Sector Development Plan (ESDP), members selected the newly proposed indicators just as readily on average as the current KPIs. Particularly striking was that across the 33 members, the newly devised indicator for 'Number of teachers receiving in service training on inclusivity and child centered learning' was ranked number one. This supports the work of Sumra and Mihayo (2015) which consistently puts the number and quality of training of teachers highest on the CSO agenda. It may be concluded therefore that there could be an impetus for CSOs to propose alternate KPIs for incorporation into future statutory frameworks. This supports the findings of Komba (2017), who concluded that although academics were consulted, civil society actors and citizens were not participants in formation of the Education Training Plan (2015), and neither were they proactive in trying to become involved.

5.2 Recommendations

This study adds to the body of knowledge in that it explores and highlights the areas of convergence and divergence between the Government of Tanzania and CSOs through the metrics used to measure success in the education sector. Rather than analyzing the performance data itself, the study points towards the importance of KPI formation as the underlying standards used to define a quality in an education system. It implies a lack of participatory leadership and governance in defining metrics, especially for outcomes, but also the potential for building consensus around shared indicators in future.

As a starting point, TEN/MET members highlighted two indicators in their top 25% which were reported by the Government of Tanzania to be underperforming. These were: Pupil/Qualified Teacher Ratio in Primary Education (Cycle 1); and % Std II learners achieving the national benchmark in reading with comprehension, respectively. This finding raises the question as to whether TEN/MET members see these indicators as important because they are underperforming, or whether the indicators underperforming despite TEN/MET members seeing them as priorities. Though the relationship between variables may be a topic for further study, there is also practical application to this finding. These two indicators are found in a nexus between being recognized government KPIs, indicators which are seen as important by TEN/MET members and those which are underperforming. From a participatory governance approach therefore, they may represent important entry points through which to build shared responsibility for targeted interventions in the sector. Leaders responsible for governance within the education sector may wish to focus on these two indicators as those which can forge greatest solidarity in driving change.

Next, from the perspective of leaders within TEN/MET member organization, there may be a need to draw greater attention towards the indicators used to measure outputs and outcomes in the Tanzanian education sector. Both the Government of Tanzania and TEN/MET members seem to favor input and process indicators over output and outcome indicators. Rather than employing contemporary planning methods such as outcome mapping, this may limit the leadership of the sector to a focus on efficiency of delivery as opposed effectiveness and relevance of changes to the system. As per the literature, this may limit the ability of the governance structures within the sector to innovate and derive improved results in a resource poor environment. It is recommended that the discourse needs to shift from espousing general intangible concepts of 'education improvement' to defining the tangible KPIs that are to be used to measure desired education outcomes.

As CSO networks such as TEN/MET tend to receive bilateral support to build capacity of CSOs to lobby and advocate for improved service delivery, a point of departure may be to train members specifically to understand indicator types and functions. Importantly, this training would include critical analysis of Government KPIs and reporting systems in relation the education sector in Tanzania. CSO networks may then be better able to push for consensus among their members on new outcome indicators to be used in the Tanzanian education sector. Based on further research into desired education outcomes and grounded in the industrialization aims of the Tanzania Vision 2025, it may be possible to derive more appropriate indicators that place the emphasis on ultimate impact rather than system efficiency. As per the global literature, the expectation is that the paradigm may begin to shift from 'schooling' to 'education', allowing for greater innovation in service delivery itself.

Finally, CSO networks have the opportunity to better leverage existing forums such as the annual Joint Education Sector Review to push an agenda of improved monitoring and evaluation within the Tanzanian Education Sector. Through greater consensus and clear requests on target indicators to be used and collected, the discourse may move from accountability towards shared responsibility in driving improved education

outcomes. Indeed, with the advent of the new Education Sector Development Plan from 2020/21 onwards, there may be an opportunity for new, more innovative indicators to be formulated to better describe a common construct of quality education in the modern era. This echoes the work of Komba (2017) who concluded that once research priorities have been identified jointly between the government and civil society, the former will very likely own the findings and thus be more likely to use them.

This study demonstrates if nothing else that TEN/MET members have a plethora of ideas on how to shape and develop the Tanzanian education sector through the use of appropriate indicators. Realizing this vision will require careful leadership and governance within TEN/MET and other Tanzanian CSOs.

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