DEVELOPMENT
GATEWAY
Solutions that empower

Results Data Initiative:
Findings from Tanzania

Development Gateway | 2016
www.developmentgateway.org

Introduction

Governments, development partners (DPs), and implementers spend millions of dollars every year collecting data on results. The post-2015 development agenda calls for more results indicators and larger investments in data. At this inflection point, we examine a critical question: **how do we make these investments most effective?**

Development Gateway (DG), with support from the Bill & Melinda Gates Foundation, is **studying how results data are collected, shared, and used** across the health and agriculture sectors in three countries: Ghana, Tanzania, and Sri Lanka. This report synthesizes our findings from mainland Tanzania[1].

1. In the interest of time and resources, the RDI team only focused on mainland Tanzania.

Purpose

We aim to shed new light, both locally and internationally, on how results data is collected, shared, and used. We also seek to understand what can be done to improve the quality and use of results data in Tanzania, at the national and local levels. Our study explores results data primarily from the government perspective, while incorporating valuable views from DPs and non-governmental organizations (NGOs).

We recognize that the Government of Tanzania (GoT) and its DPs are actively engaged in improving the use of data for decision-making in both health and agriculture. Rapid scale-up of HIV/AIDS, tuberculosis (TB), and malaria responses—with the support of the President's Emergency Plan For AIDS Relief (PEPFAR), the Global Fund to Fight Aids, Tuberculosis, and Malaria (Global Fund), and others—have brought technical and financial resources to bear on health data issues.

Similarly, GoT's Agricultural Sector Development Programme II[2] (ASDP II) has recognized the "weak agricultural statistical system" and an Agricultural Statistical Strategy Plan (ASSP) is being implemented. The importance of accurate agriculture results data for Tanzania has recently been reinforced by GoT[3]. Concerns about agricultural productivity and resource management remain at the forefront of public thinking:

"The point is for political leaders and the rest of the populace to come up with a new way of managing agriculture and we should change the matrix of development".[3]

Our report seeks to add value to Tanzania's efforts to improve results-based management by highlighting, in particular, the perspectives and needs of district level managers in health and agriculture when it comes to collecting, sharing, and using data on results.

We hope these insights inform future investments in results-based management in Tanzania, as well as influence international efforts to promote the role of data and results in making development efforts more effective.

---

2. While ASDP II has been formulated it has not yet been formally initiated. ASDP I, although it closed in June 2014, remains, formally, open with accounts still being transacted.
3. A June 2016 report from the Prime Minister stated that of 174 municipalities, 30% had a food surplus, 116 municipalities had adequate capacity, and 7 municipalities experienced food shortages to be addressed.
4. Editorial, *The Guardian* newspaper, Dar Es Salaam, July 1st 2016.

What Do We Mean By Results?

Our definition of "results" comprises both output and outcome data. We define **outputs** as the goods and services delivered through activities – such as immunizations or farmer trainings. We define **outcomes** as evidence of effects on target populations – such as infant mortality rates or increase in rural household incomes.

Analytical Approach

DG partnered with DataVision International (DVI) to carry out qualitative interviews and analysis. A number of individuals informed the interview guide, participant profiles, and sampling frame, including representatives from: the President's Delivery Bureau; the Ministry of Agriculture, Livestock and Fisheries (MALF); the Ministry of Health, Community Development, Gender, Elderly and Children (MOH); the National Bureau of Statistics (NBS); other government agencies; civil society organizations; and several development partners. Interviews, conducted in Swahili, were pre-tested by DVI's field research team and appropriate government permissions were granted.

DG and DVI mobilized researchers to conduct 140 in-depth, semi-structured interviews with respondents working locally in the health and agriculture sectors from 17 districts in six regions in mainland Tanzania. These included government officials, DPs, and civil society organizations (CSOs) in Dar-es-Salaam, Dodoma, Mwanza, Arusha, Kigoma, and Ruvuma regions. Regions were selected to represent varied agro-ecological zones and economic diversity. Our focus on two sectors enabled a more in-depth exploration of data issues. We do not claim a statistically representative sample, and acknowledge the full caveats of any qualitative investigation, but are confident that our interviewees are broadly indicative of development actors in mainland Tanzania.

Background: Demand for Results Data

We first outline some key recent trends that influenced the availability and use of results data in the health and agriculture sectors in Tanzania:

National M&E Guidance. The GoT's *National Strategy for Growth and Poverty Reduction* (known as the MKUKUTA II) articulates major goals and priorities, shaping which results (outputs and outcomes) matter most. Coupled with the Medium Term Expenditure Framework (MTEF), MKUKUTA II provides the foundation for the national results framework. Most DPs work carefully to align programs and results measurement with the national framework.

MKUKUTA II is driving new investments in statistical capacity, and is increasing pressure on sectoral agencies for more robust results frameworks and progress reporting. However, as the strategy document notes:

"The incentives for the production of robust data, their analysis, interpretation, sensitization and communication, dissemination, and utilization are still relatively weak in some MDA[5]s [sic]. As a result, the evaluation function which is critical in terms of linking outcomes and expenditure is rather underdeveloped."

MUKUTUA II, 2010 p. 23

Big Results Now. GoT launched the Big Results Now (BRN) initiative in 2012. Led by the President's Delivery Bureau, BRN sought to transform GoT delivery by focusing on high-impact, catalytic initiatives in a few priority sectors, and giving robust attention to results monitoring and management. Agriculture was one of 6 original key results areas; health was added in 2013. BRN has focused sector agencies—at every administrative level—on a few key results measures, and is reinforcing the role of evidence in public service delivery.

---

5. Ministries, Departments, and Agencies

Data for Devolution. As decentralization progresses, the NBS reports an increasing need to supply disaggregated data to meet demand from public service agencies, as well as growing private sector demand for data on social and economic conditions in subnational markets. While these needs are widely known, there are few sources, aside from routine administrative data, of results-relevant data at district-level or below.

Investments in Health Data. Significant domestic and DP expenditures have been made to improve the coverage, reliability, and use of health data over the last 25 years. DHIS2[6], discussed in detail in the following pages, is a significant and recent example of these efforts. Tanzania has also made steps to collect demographic sentinel surveillance data at the district level to target resources according to local—rather than nationally estimated—data on fertility, mortality, and burden of disease. Due to high prevalence of HIV/AIDS, TB, and malaria, DPs— notably PEPFAR and the Global Fund—are supporting large-scale vertical programs that create the need for robust health information systems (e.g., approximately 90% of the national HIV/AIDS response). These systems are largely off-budget but have led to investments from DPs to strengthen country systems for monitoring outputs and outcomes and large-scale surveys for these diseases.

Investments in Agriculture Data. Several initiatives seek to address two major results data needs in the agriculture sector: (i) the need to access routine administrative data, such as availability of agriculture inputs, and (ii) the need to accurately measure production to inform the food security situation, import/export needs, and national accounts. The Agriculture Routine Data System (ARDS) aims to provide district-level administrative data. In August 2016, the Annual Sample Survey will provide national and regional level production estimates for major crops and livestock. Also, the planned 2016/17 national Agricultural Census would provide much-needed new baseline data for the sector.

---

6. Tanzania's web-based Health Information Management System (HMIS)

Results Data Collection and Management

Our findings on data collection and management provide a foundation for subsequent discussions on quality, sharing, use, and feedback. Data collection activities are categorized into two groups: (i) routine administrative data, which captures performance/activity data at the point of service delivery (e.g., facility, household, or farm level), and often provides the basis for "output" indicators; and (ii) surveys and census data, which captures primary data and can provide baselines to inform "outcomes". Key insights are as follows:

Health Results Data

DHIS2 has catalyzed more coordinated and systematic data collection in the health sector since its rollout in 2013. The web-based system intends to collect and report activity data from every public and private facility. While the coverage is imperfect—many rural clinics are not fully represented in DHIS2—the Ministry of Health (MOH) has improved overall data production. Data directly informs many of the indicators required by the health sector strategy, the PforR[7], BRN, and vertical programs.

A few strategically-located outposts[8] also collect local information on diseases. These outposts use verbal autopsy and sentinel surveillance methods[9] to collect population-based data on burden of disease, fertility, morbidity, mortality, and outbreaks. But our respondents indicated that this information is neither integrated into the DHIS2 platform, nor routinely used by Council Health Management Teams (CHMTs) to make decisions.

DHIS2 received positive reviews from nearly all respondents at the district level. DHIS2 replaced a paper-based data management approach in the districts in 2013 and is decreasing fragmentation of vertical reporting for HIV/AIDS, TB, and malaria programs. Facility data can now be joined with prior periods and different program areas. For example, district officials reported visualizing the number and distribution of malaria cases across facilities to assess performance of district-wide services.

But the benefits of DHIS2 for data management are not realized at the facility level, because facilities do not yet have access to DHIS2. **Currently, facility staff continue to collect and manage data on paper- and may spend as much as 25-30% of their time filling out reporting forms that are then used by district staff to enter data into DHIS2.** This method strains busy health workers and constrains possibilities for facility-level analysis. Respondents report that facility staff copy the data from one register to a report template, typically near reporting deadlines— meaning that data management is not a daily activity, but instead a rushed weekly or monthly task. Data quality— and local relevance— suffer as a result.

---

7. Program-for-Results. http://www.worldbank.org/en/programs/program-for-results-financing
8. Run by MOHSW, Ifakara, and National Institute for Medical Research.
9. Data collected in a well-designed sentinel system can be used to signal trends, identify outbreaks, and monitor the burden of disease in a community, providing a rapid, economical alternative to other surveillance methods. http://www.who.int/immunization/monitoring_surveillance/burden/vpd/surveillance_type/sentinel/en/

"Doctor or clinician is supposed to produce good data, but he has other responsibilities and when you see his paper work, meaning if there is few patients he will do it within time and if there are many patients he will do it after work, which sometime is not possible. So, what is done, for example, people who we selected sometimes can spend the night, extra time, even weekends to feed the data."

Medical Officer In-Charge

Remote facilities often struggle in getting data to district offices. Only reports that reach district offices are entered and used in DHIS2. Mobile phones have partially addressed this issue; facilities in remote locations sometimes send photos of reports to district offices, meeting immediate reporting needs. **But respondents in every sampled district indicated that if facility staff had access to DHIS2, data quality would improve[10].**

Agriculture Results Data

The diversity of actors and methods makes agricultural data collection complex and fragmented. There are six sources of results data from censuses and sample surveys, and nine sources of administrative and routine data, including agricultural production, trade, fisheries, and forestry. The Agriculture Statistics Strategic Plan (ASSP 2014) listed these data collection activities/institutions and proposed revised strategic roles and purposes for data collection, including the Agricultural Census, Agriculture Routine Data System (ARDS), the Annual Agricultural Sample Survey (AASS), and the National Sample Census of Agriculture (NSCA). These should support data needs/use at national, regional, and district levels. In the future, the "Small Areas" District Data Initiative[11] will source from ARDS and AASS to provide district-level data.

\In 2009, MALF and Japan International Cooperation Agency (JICA) initiated the ARDS, a web-based information system for collecting and reporting routine agriculture administrative data. The rollout to all Local Government Authorities (LGAs) was completed recently, and in the most recent data collection period **70% of districts reported via ARDS. This represents a positive and important direction for agriculture administrative data collection, but the progress is still in early stages.** An increase in overall district reporting and data quality assurance must happen before data can be formally used and published (informally, some districts use ARDS data for planning). At the national level, indicators on production extent, production levels, yield, and livestock are still developed using data reported manually from LGAs, usually by e-mail.

10. This is part of MESI II strategy, but has yet to be implemented.
11. Under development by GoT, with support from FAO and IrishAid, the initiative seeks to provide detailed district-level agricultural and livestock data from ARDS and the AASS to provide a regular, more accurate, and cost-effective basis for planning.

Challenges with Data Collection

In the **health sector**, notable issues with data collection are particularly evident with routine data from facilities. Specifically:

* A majority of respondents indicated that high levels of provider absenteeism and mobility are contributing to the data collection burden.
* Due to the absence of an electronic records system, patient data must be re-entered by different departments for each patient visit, further burdening health workers.
* Busy health workers do not always complete data collection forms, leading to missing and/or low quality data.
* Facility and district officials must proactively request and obtain data collection books from MOH, resulting in a complete halt of data collection until new books are available.

Notable challenges with **agricultural data** collection, reporting and use include:

* Systematic methods for data collection and reporting are not in place. For example, forms and protocols for field visits either do not exist or are not standardized across districts.
* Field equipment is lacking at ward/village levels, and adequate office space, office equipment (computers, printers, photocopiers), and statistical software were lacking at district levels.
* Decentralization to LGAs leads to a lack of Ministry influence over data collection and reporting at district and village levels—a source of frustration for many at the central level.
* A lack of awareness among district level management on the importance of evidence-based policy and data use makes data collection a lower priority for all.
* Overlapping data collection systems for agriculture, (ARDS, Early Warning and Crop forecasting, National Accounts agricultural production form) produce conflicting production data.
* Taxes and subsidies (e.g., tax on agriculture as decided by the LGAs, fertilizer coupons) can lead farmers to misreport their production levels.

Results Data Quality

We asked respondents to describe how they perceive data quality, and then to rate the quality of their data. In both sectors, data quality was rated at 3, on a 5-point scale (1 being the lowest and 5 being the highest). Insights on the factors that influence data quality are offered below:

Data Quality and Staff Performance

Data quality is a key factor for staff and departmental performance metrics. Staff are evaluated by three data-related criteria: (i) meeting reporting deadlines, (ii) submitting complete reports, and (iii) submitting accurate reports. Since criteria (i) and (ii) can be achieved and verified with less effort than (iii), respondents suggested that they have incentives to submit reports on time with less regard for accuracy. **Primary collectors rated the data quality they collected higher than secondary data collectors** in both sectors, which may reflect the pressure felt by respondents from performance metrics.

Health Results Data Quality

Across the sector, the most frequent **data quality concern is missing data,** either due to delays in reporting from remote facilities or incomplete data collection registers.

"...sometimes it is that burden of attending many patients at once. For, example the patients needs to be attended as soon as possible and there are other many patients waiting and there is no enough attendants so they just take the data, so we just take the data and expect to fill them later so that is when we lose data, so that also is one among the biggest challenge we face"

Medical Officer In-charge

All stakeholders feel data quality issues that originate at facilities. CSOs who provide care in the community report that they are not able to use poor-quality data to target clients in need of out-of-facility services. CHMTs, vertical programs, and MOH make planning decisions and measure performance of programs every quarter using DHIS2 data—meaning that planning is done with incomplete data when facility reports are late.

District-level respondents in both sectors noted that data collectors often have no sense of what the data will be used for, impairing incentives to collect quality results data. **Respondents noted the need for collectors that can understand the importance and potential benefit of good-quality data.** District-level health respondents called for targeted training to clinical staff to enhance their appreciation of data and its use.

"To improve data quality, first tools should be available to collect the data, such as books but also data experts because we medical personnel learn very little about data when we are in the colleges…"

<div align="right">Medical Officer In-charge</div>

Respondents also express concern that population size estimates, the denominator for most key indicators and targets, are based on NBS projections and estimates that are outdated due to changes in the conditions of fertility and internal migration. Some respondents suggest that communities can help provide better denominator data, to be used in systems to provide more targeted services to the clients.

"[District Executive]… also accepted that village leaders can provide accurate data on that, and I also proved that, the time we were distributing nets. They have been insufficient all the times due to underestimating population. After realizing that we have been working with village leaders in identifying children under five and mothers. This information is always exact."

<div align="right">District Medical Officer</div>

Agriculture Results Data Quality

Respondents across all levels of government and DPs express distrust of administrative data because of **(i) inconsistent methodologies and (ii) figures based on projections instead of actual measurements.**

"Frankly speaking, our data is not of high quality. For example, if I want to assess food situation in case there is drought, I should report the number of households with food shortage, in doing that I cannot move from village to village; I just rely on the data from extension officers and VEOs which is also estimated not real...There are few extension officers; when we request data from them, they just consult village leaders and estimate data..."

District Agriculture Officer

The most commonly used data quality assurance tools for routine data is supportive supervision and searching for outliers against historical or projection figures in both sectors. **However, these reactive quality assurance methods do not address the root causes of poor data quality.** We observed the need for data quality assurance methods that are more proactive and independent. In the health sector, district officials reported supervision visits to facilities when discrepancies in the reported data were identified. In the agriculture sector, the district officials use supervision visits to select certain data points to back check. Respondents in both sectors noted that a **major constraint to supportive supervision is lack of travel funds and human resources.**

Results Data Analysis and Use

Demand for data analysis varies widely. The major local use of government health sector data is to count service delivery outputs. In agriculture, a major local use is to record basic production indicators and create activity reports. **We find few examples of analyzing or understanding the relationships between resources, outputs, and outcomes** across districts and regions.

Data Analysis in the Health Sector

The Council Health Management Team (CHMT) is a major source of demand for results data use at the district level. The CHMT planning process[12] draws attention toward district level analysis and away from mere reporting to the national level. CHMT develops the Comprehensive Council Health Plan (CCHP), which reflects the needs of the district—using facility-based rather than population-based data—as well as the national priorities.

In the districts, performance against the CCHP matters a great deal in securing budget from the basket fund[13]. Program coordinators and administrators provide monthly reports to the CHMT (using analysis from DHIS2) that shows progress against key goals and indicators.

"Fund allocation depends on how the problem is analyzed: for example, if infant mortality rates are high and most of the fund is not allocated to infants, then that budget cannot be approved."

District Medical Officer

Data analysis in the districts is primarily done via DHIS2—district officials create charts and tables to monitor service delivery patterns.[14] While reportedly useful, there are indications that these charts are inadequate proxies for deeper analysis, which still requires a dedicated officer to take a deep dive into specific issues.

---

12. First, CHMT develops the Comprehensive Council Health Plan (CCHP), which outlines planned health activities for the district, based on facility data. Second, CHMT allocates the District Health Basket Funds, which pools all funds for district health programs based on the CCHP needs.

13. 'Basket' funds are an approach used by DPs in Tanzania to pool DP sector resources (health, agriculture) into a common fund that uses Government systems to allocate and disburse. Tracking remains a key requirement.

14. It is important to note that non-facility based data is not captured in DHIS2, and therefore not analyzed.

"I recently analyzed the number of HIV victims' [lab tests.]...The results showed the majority did not get the service despite attending the health facility. We discovered that there was a shortage of instruments for doing that. The existing stock had expired and Medical Store Department had no stock by then...So the clients haven't been getting the service for three months."

District AIDS Coordinator

Despite recognizing the constraints on the quality of the data, district officials rely on DHIS2 to manage day-to-day activities. Respondents in all the districts pointed out that DHIS2-centered analyses leave out non-facility based information and cannot include indicators to reflect district-specific issues. Additionally, DHIS2-based analyses are biased toward results from larger, well-staffed facilities, since data from smaller facilities tend to be late or incomplete.

Results data analysis at the facility level is limited. Although DHIS2 is *about* facilities, it is not available *in* facilities. In addition, respondents feel that they lack guidance on how to effectively use the data in the registers at facility level. Therefore, data is analyzed to a limited extent using paper forms—and sometimes Excel—primarily to check for consistency before data is sent to districts to enter into DHIS2.

CSOs also analyze facility outputs and performance for external assessments, relying on facility-based data to inform additional non-clinical services such as home-based care. However, access to such clinical data depends on the CSO's relationship with the CHMT and its capacity to fund local programs. CSOs providing health services access DHIS2 as well as their own programmatic databases for analysis, but they struggle with poor quality data from the facilities.

Common analyses across all districts tend to be simplistic and incomplete, suggesting the need for investment in data analysis skills. The most common analysis across all the districts is a list of the top ten diseases by prevalence, calculated from facility-level disease reports. For example, one District Medical Officer (DMO) reported that malaria in the district was "going down" because it had moved from the first to the third rank in the list of top ten diseases reported at the facilities. Because this assumption was not based on the number of actual cases, but a change in the rank of the disease in comparison to other top diseases, the conclusion may have been incorrect.

Facility based data is an (potentially biased) approximation of the conditions across the population. For example, families that are too poor or otherwise constrained from accessing services will not be counted. Thus, approximation of actual prevalence is used to monitor estimated disease prevalence, allocate testing instruments, medications, etc. Findings from sentinel surveillance—which collects local data on births, deaths, and burden of disease—are not used to calibrate and validate findings from facility-based data. Efforts should be made to encourage these important data linkages at district level.

Data Analysis in the Agriculture Sector

National level actors analyze and create monthly/quarterly progress reports as well as annual reports using both (i) routine administrative data provided by e-mail from districts, and (ii) survey and census data (see Annex 1). These analyses aim to inform policy makers on food availability (early warning), food prices, and national production forecasts (to estimate imports/exports). Data is also provided to NBS to assess agriculture's contribution to the economy. While analysis is typically limited to descriptive statistics and trends, respondents pointed out that these summaries help "get the real picture" of what is happening in agriculture.

Routine administrative data is used in the District Agriculture Department to plan activities, and ultimately the data influences the production forecasts. Respondents highlighted that data is analyzed to document the status of agriculture in their respective councils. A few respondents also noted that further analysis could illuminate the status of different district targets and the production capacity of the district. For example:

- ※ When poor performance of some crop seeds was quantified, a decision was made to change seed suppliers.
- ※ In pastoral districts, analyzing the number of animals is crucial in planning and can help in detecting livestock diseases.
- ※ The business community requested basic analysis; i.e. the number of cows slaughtered, which can assist in projecting number of hides available for manufacturing.

Several respondents noted that politics could influence data analysis in agriculture. In most districts, crop data is analyzed to brief district commissioners and regional commissioners (political leaders) each week. Thus, while measures of crop production, seed production, fertilizer vouchers distributed, amount of fertilizer used, etc. are quantified, there is **no agriculture-sector oversight at the district level to ensure that these figures correctly impact policies and plans in the district.**

District and national officials also recognize that they only collect and use data on outputs—such as changes in production—rather than the longer term outcomes. Many respondents stated that they lack the data to understand the actual outcomes of their extension activities, e.g. improvements in household income or employment opportunities.

"If someone modifies livestock farming, builds a good house, and takes children to school after selling crops, [increases] from one meal to three meals…These are among changes that you can notice on the farmer though we rarely reach that level. [However,] the nature of data we access most of the times does not track to outcome level…"

Agriculture Extension Officer

Theme 4:
Data Sharing

We asked respondents about their experiences sharing results data with people inside and outside their respective organizations, with a goal to uncover any good practices, unmet needs, and salient barriers to sharing this data. Insights are as follows:

Health Sector

Data sharing at district level and above has been streamlined with implementation of DHIS2. Anyone with DHIS2 credentials can access the system and data related to their duty, including all relevant government officials and some partner NGOs. MOH and vertical program leaders can directly access district data without waiting for reports from district program coordinators. Also, some district officials reported that they were recently given permission to view national and regional level data that they use to benchmark their own performance—though they still cannot see figures from other districts. **A mandate to coordinate all health activities in the districts via the CHMT has also created avenues for data sharing in the districts and nationally.**

However DHIS2-based data sharing is not available at community and facility levels, as the public facing portal of DHIS2 does not show data disaggregated to district levels, nor do facility staff have access to DHIS2 to view data. Facility staff frequently called for access to DHIS2 or CSO reports of activities in the communities.

"We at the facility would like to see some data on implementation of the activities that NGOS in our in-catchment area collect, such as the number of clients they have attended. This will help us to know the number of services provided, of tested clients, how many are eligible to start the treatment."

Medical Officer In-Charge

District health officials, especially those focused on HIV/AIDS, reported regularly meeting partner CSOs to write joint progress reports on CSO-supported activities for CSOs to submit to their national and international stakeholders. This is a valued data-sharing forum for both actors.

We asked respondents about what results information they would like to access, but currently do not. **Health facility staff expressed demand for more community-specific data such as maternal or infant deaths at home, HIV/AIDS patients who do not come for treatment and intravenous drug users in the community** to better assess service delivery against community-specific issues.

"Currently, the system of data collection is based only on health centers, but in the community where the patients come from, not all of them come to hospital, therefore there are other information which we miss. There are some people who are sick and get treatment while at home and die there…"

Medical Officer In-Charge

---

15. Elizabeth Glaser Pediatric AIDS Foundation

Agriculture Sector

In the agriculture sector, ARDS has potential to be a "one-stop shop" for sharing routine administrative agriculture data. The Tanzania Agriculture Sector Strategic Plan marked it as the official source of routine administrative agriculture data, but demand for—and sharing of—ARDS data is still weak.

The most significant impediment to data sharing in agriculture stems from quality concerns. Donors, NGOs, researchers, and other non-government actors do not see routine administrative data as accurate enough to meet their needs.

"[Non-governmental actors] rarely come to us because there is a belief that our data is not correct since they are … supposed to be regularly updated and we rarely do that. So most [external actors] believe that government data should not be dealt with because [they] are not realistic. They have their data which are in most cases different from what we have."

Regional Agriculture Officer

Cross-Sector

Data is also not routinely shared with other departments in a given district, such as education or roads. District officials who have experienced benefits from cross-departmental sharing strongly advocate for better processes to join data from other sources.

"I have learnt that we cannot eradicate cholera without cooperating with other departments. We need to know water sources for our people in the district. This data is important to us because some people use water from conduits and this is one of the cholera causes. This data can help us in setting preventive measures."

District Medical Officer

Lack of data sharing is a barrier to benchmarking. Respondents in the districts reported the desire to benchmark their production against the neighboring districts, but are not able to do so because districts do not readily share production indicators—particularly because these directly reflect the District Executive Director's performance. Some agriculture departments also reported difficulties accessing data from private companies[15]. In at least two instances, respondents report that private companies export agricultural products with permits from MALF; however, when district officials request production information these companies deny them access.

NBS officials in Dar Es Salaam reported that dissemination of agricultural sample survey data is a challenge because small sample sizes prevent disaggregation at the district level. As a consequence, data is of limited use to district officials or local private sector investors. However, ministry respondents did state that national-level surveys conducted in both sectors, as well as crop and disease surveillance information, are circulated as reports to the districts, although rarely used.

---

15. There is fragmentation of authority that grants the operational permits and who requests data. MALF grants private companies operational permits, but LGA—are not under the supervision of MALF— requests data. This fragmentation diminishes the incentives of private companies to share data with the district agriculture department.

Results Data for Planning, Resource Allocation and Performance Management

We asked respondents about their awareness of department, district, and national goals, and if performance towards these goals has an impact on planning, budget, and resource allocations. Major takeaways are as follows:

Multiple surveys and robust monitoring and evaluation frameworks inform national planning and budgeting (see Annex 1)—emphasizing the increasing demand for data for national planning. The national poverty reduction strategy, Agriculture Sector Development Plan II, Health Sector Development Plan, and sectorial statistics plans are all developed with an in-depth situation analysis and contribute to resource allocation activities at the national level. These national goals are relayed to the LGAs, where the goals become key factors for district planning and performance evaluations. Local departments then create bottom-up plans based on plans submitted by villages and wards, in line with national goals.

District-level respondents often indicated that BRN goals had taken precedence, in practice, over other sector-specific goals in recent years. Since 2012, BRN[16] has created goals for key priority areas "to achieve measurable impact in a limited timeframe." These goals were created in partnership with sector ministries and President's Office Regional and Local Government (PORALG), and these goals sit on top of the goals set by sector ministries.

At all levels, respondents were aware of the relationship between results data, goals, and budget planning. Districts use PlanRep[17]—an IT tool for budgeting and planning—to view budgets and expenditures versus progress against goals. But the system does not automatically sync with departmental reporting systems, requires duplicative data entry, and does not capture crop and disease surveillance information, diminishing the opportunity to capitalize on early warning and forecasting measures.

Respondents in both sectors expressed awareness that they are relying on poor quality, estimated, or missing routine data for planning. **In two instances, the respondents addressed quality risks by directly reaching out to the community leaders to gain a more accurate count of the target populations.** However, in most cases, respondents make plans with the limited data and assessments already available.

As a result, respondents expressed doubts about their ability to plan effectively, because budgets seldom match the plans—even when in a few rare cases where results indicators were used to inform district-level plans. Respondents in at least three districts reported that although the Ministry allocates budgets roughly according to their proposed plans, these budgets are sometimes re-allocated by the District Council to other priorities, such as building schools and clinics. Such challenges reduce incentives for local-level agriculture workers to devote time to the planning and budgeting process.

We asked respondents, **does performance on certain indicators matter for your budgets?** In the health sector, the response was "sometimes." For example, vertical program coordinators reported that more funds were made available when national targets are met.

---

16. The agriculture sector was part of the BRN since 2012 and health sector was added in 2015.
17. http://www.pmoralg.go.tz/quick-menu/mis/planrep2-tasks.php

"If you meet national targets you get more funds... I have talked of performance based budget, which means that the more you meet the targets, the more money you get."

District Medical Officer

Also, DMO and other officials reported that when performance on certain indicators is poor, or there are outbreaks, CHMT can divert resources to address the problem.

"These are plans that we use for our own domestic fund. This is the kind of fund that we can allocate in areas of need without depending on the sponsor or government grants that are delayed most of the time. For example, for epidemic diseases, the council financed us. Domestic revenue can be directed according to the needs in the district."

District Medical Officer

In the agriculture sector, the response was mixed. **Production indicators are given a great deal of attention, but respondents report that budgets are not directly influenced by annual production figures.** For example, if famine is noted, local agricultural budgets do not change, as the focus is on short-term emergency food allocation from strategic reserves.

Feedback

There is growing global attention to the need for constituent feedback to inform management and planning. Yet, our findings uncovered few systematic feedback processes in either health or agriculture in Tanzania. Most of the limited feedback we observed focused on completeness or timeliness of the data, with little emphasis on performance or results.

In the absence of systematic feedback loops, just a few out-the-box managers and officials work to obtain ad-hoc feedback on data collected or on actual services delivered. These leaders are positive anomalies that merit recognition and replication.

"I also analyze data with the use of SPSS, I interpret that data and share with the program manager. When the manager gives me feedback I share with other people in my department and our partners."

District Agriculture Officer

There are also emerging opportunities to incorporate constituent feedback more directly in results-based management processes. For example, the Star Rating initiative[18]—a performance management program that gives feedback on facility-level service delivery using incentives and star ratings—is currently being piloted in the health sector. If more widely communicated, approaches like Star Rating initiative have potential to improve facility-level demand for and use of results data.

We also see opportunities to leverage decentralization to create systematic local feedback loops. As decentralization continues, local decision makers have unprecedented opportunities to use results data for local decisions. For example, in the health sector, the Council Health Management Team is in a place to systematically give feedback to facilities on their performance on certain indicators. Currently, this feedback happens occasionally, if at all. But systemic feedback requirements between CHMTs and facilities could go a long way to incentivize good performance and reporting.

18. Star Rating initiative is part of the 2015-2018 Big Results Now in Health program which was developed as part of Tanzania's Development Vision 2025. http://www.tzdpg.or.tz/fileadmin/documents/dpg_internal/dpg_working_groups_clusters/cluster_2/health/Sub_Sector_Group/Quality_Assurance/12_Recognition-Guidelines.pdf

Way Forward

Our recommendations are intended for both GoT and the DP community, as well as for international actors. We focus our points separately on health and agriculture, but suggest that many lessons from each are broadly applicable.

To address the issues discussed above, our recommendations focus on (i) reducing data collection burdens, (ii) improving relevance of results information, and (iii) creating the right incentives to promote data use, especially among district managers and service delivery staff.

Health Sector

Develop the analytic skills of health facility staff. Several programs train staff on data collection, and other efforts have improved monitoring of health service delivery via DHIS2. However, real analysis and use of data outside of DHIS2 at the local level is lacking. Future trainings for health leaders should prioritize basic evaluation and analysis skills to make analysis more constructive and accurate.

Expand DHIS2 access to facilities. Health sector respondents were concerned with the inability of facilities to access DHIS2—either for entering data or analyzing and benchmarking performance. This undercuts DHIS2's value for facilitating facility-level learning and improvement.

Streamline routine indicators. Personnel spend a great deal of time reporting on program activities and outputs. GoT and DPs have worked successfully to harmonize their indicators—as demonstrated by DHIS2—but the overall number and type of indicators to be prepared remains burdensome. It is critical to remove indicators not used to assess key government priorities, inform local decisions, or fulfill international reporting requirements.

Hire additional service delivery staff—with an explicit focus on improving data collection and quality. Our respondents emphasized time and again that staff face stark trade-offs between seeing patients and completing reporting books.

Further develop proactive and independent data quality assurance processes. By simply checking for outliers and not systematically assessing the accuracy of data, district officials perpetuate incentives for poor data quality. Explore the role of independent, third party data assurance processes.

Ensure that district level officials can combine different results-oriented data to meet local priorities. As decentralization efforts evolve, we highlight two important approaches for improving use of evidence and data at district-level and below:

* **Integrate surveillance data with district data systems such as DHIS2 and PlanRep.** CHMTs are beginning to reap the benefits of DHIS2 for compiling data across facilities and creating simple visualizations to inform plans. Making other types of data—particularly findings from sentinel surveillance—more readily available for decision-making can accelerate progress.
* **Bring non-clinical HIV/AIDS data into planning discussions,** including population data from communities and output data from non-clinical CSOs. These are particularly relevant to community prevention and care work addressing HIV/AIDS and malaria. CSOs report their activities to LGAs, but we find that this information does not typically factor into planning processes.

Support the forthcoming Data Dissemination and Use (DDU) strategy. The DDU strategy, supported by USAID/PS3[19] aims to prepare and disseminate guidance on data use and sharing to all health sector workers, provide training activities on data and analysis, and establish 'data forums' in districts and regions to encourage data sharing and peer learning. Our findings strongly validate this approach.

Accelerate investments in and use of Civil Registration and Vital Statistics (CRVS). Respondents frequently stated needs for outcome-relevant data at the district and sub-district level. Communication and training should demonstrate the value of existing outcome-relevant data and provide specific tools and approaches for using it. Moreover, efforts to strengthen CRVS stand to provide more expansive outcome-relevant data and should be prioritized.

Encourage benchmarking and peer review of performance. The Star Rating system should be scaled up and ratings should be communicated in structured benchmarking and performance reports across regions and districts. Similar approaches for using DHIS2 and other district-level data to publish service benchmarks across districts should be considered to stimulate demand for results.

Provide adequate recurrent budgets for results data. DPs largely drive demand for and supply of health data, leading to underestimates of the recurrent costs of managing data systems. Respondents frequently expressed frustration with insufficient resources for supportive supervision, transportation, and staff time to collect, maintain and use data.

19. Public Sector Systems Strengthening

Agriculture Sector

The Ministry of Agriculture, with support from PORALG, should standardize data collection instruments. This will improve data interoperability across districts and improve quality. The Agriculture Sector Strategic Plan is already promoting this, and should be prioritized.

Provide adequate recurrent budget and staffing. Recruit more new sub-district staff for field level data collection. Service-level workers are—and will remain—the primary routine data collectors, and staffing constraints are a constant reality. Skilled staff and standard collection methodologies at the sub-district level will improve the quality of routine administrative data.

Build subnational analytic capacity by recruiting statisticians at the district and regional levels. The training programs underway with ARDS are a good basis for this, but further funding is required from GoT (new staff) and DPs (training and equipment/transport/facilities). Training should include methodologies for crop recording and estimation, along with understanding and use of data types—e.g., the difference between activities, outputs, and outcomes. DP result systems can provide guidance and examples and should be updated on ARDS, and its funding needs by the Monitoring, Evaluation, and Statistics Department.

Review data systems and reporting lines. The 2014 ASSP inventory of agriculture data collection systems needs to be updated. This should include proposed roles, responsibilities, and purposes for data collection agreed and endorsed by LGAs, national ministries, and DPs. Respecting the decentralization process, there is a need for MALF and other national actors to directly supervise the technical aspects of agriculture data collection and reporting. While GoT should adjust reporting lines through matrix management, DPs should coordinate and harmonize initiatives and collectively fund, as envisioned under ASDP II, core data requirements.

Improve reliability and access to routine administrative data. Data sharing in agriculture is currently limited and informal links among institutions/agencies and DPs. As a result, and also due to financial constraints, limited data is published.

Respondents at all levels noted that the agriculture sector could benefit from systematic data quality assurance protocols. Current protocols are employed through supervision processes and depend on the availability of scarce travel funds.

Improve access to and use of ARDS. Incomplete data, difficult access, and low reliability restrict the use of ARDS. Apart from improving correct submission of data into ARDS, guidelines for access and use need to be made user-friendly and accessible (both in paper and on-screen). More importantly, to improve sharing and use, ARDS needs to facilitate district-level demand for data. To improve use, the tool should more easily add locally relevant indicators and allow users to prioritize specific items (e.g., farm input and output prices).

Build demand for results data. Sufficient data already exists both in NBS and Ministries to develop concise results data 'highlights' that can communicate relevant data to decision-makers and other stakeholders. One or two page results briefs would highlight specific results and performance in crop and livestock production. Provided both to media and government officials (nationally and locally), such approaches would stimulate an interest in agriculture results data.

Annex

Table 1.1 Types of Data Collected in the Health Sector

Summary of responsible institutions mapped to data collection activities

Major Data Collection activities	Institutions Responsible for Producing Data	Method of Data Collection	Uses	Primary Users/ Decision Makers
Tanzania Demographic Household Survey	NBS[20]; MOH	Sample survey using standard collection forms	Estimates on key performance indicators at national level, urban/rural levels, and seven zones	National; DPs
Routine Health Information Management System (DHMIS2)	Health facilities; LGAs; MOH	Facilities reporting activities in 3 HMIS books/ registers	Facility based data are used to Monitor health service coverage at health facilities, performance of key program areas such as TB, HIV/AIDS, Malaria, TC, PMTCT, etc.	National; Regional; and District
HIV/AIDS and Malaria Survey	TACAIDS; NB; ZAC[21]	Sample survey using standard collection forms	Information on knowledge and behavior about HIV/AIDS and Malaria, HIV prevalence among men and women ages 15-49, presence of malaria among children 6-59 months	National; Regional; and District
Demographic Surveillance System	MOH; Ifakara; NIMR[22]	Verbal autopsy; Sentinel Surveillance	Population based Measures child and adult mortality rate, assess leading causes of death via verbal autopsy	Participating Districts; National

Source: Compiled by DG from World Health Organization and MoH sources

---

20. National Bureau of Statistics
21. Zanzibar AIDS Commission
22. National Institute for Medical Research

Table 1.2: Types of Data Collected in the Agriculture Sector

Selected summary of institutions in data collection activities

Major Data Collection activities	Institutions Responsible for Producing Data	Uses	Primary Users/ Decision Makers
National Sample Census of Agriculture	NBS and OCGS[23] Zanzibar; MALF; MIT[24]; MLF - Zanzibar	Basic data for designing, monitoring and evaluation of agricultural development policies and programmes. National Accounts.	National
National Panel Survey	NBS; OCGS Zanzibar	Data for Poverty Monitoring and tracking results for agricultural development programmes	National; Regional
Annual Agriculture Sample Survey (under development in 2014)	NBS; MALF; MLF-Zanzibar	Current annual data on major crop area, yield and livestock inventory for monitoring food security and results of agricultural development programmes	National
Agriculture Routine Data System (with technical assistance from JICA)	MALF; PORALG; MIT; NBS	Main source of current data on agriculture and food security (articulation with current and upcoming surveys will be discussed later)	National; Regional; District
Crop Monitoring and Early Warning	MALF; National Food Security Information Directorate, Crop Monitoring and Early Warning Section	Food security information	National
Crop and Livestock Price Data using a network of Extension workers in selected Regional and District level rural markets	MIT; MANR[25]-Zanzibar (crop prices)	Price information used by Government, Farmers, investors, general public for marketing and investment decisions	National; Regional

Source: ASSP

---

23. Office of Chief Government Statistical
24. Ministry of Industry and Trade
25. Ministry of Agriculture and Natural Resources

Authors

Vinisha Bhatia, Susan Stout, Brian Baldwin, and Dustin Homer

Acknowledgements

About Development Gateway

Development Gateway works to make data useful for governments, development organizations and citizens around the world. This is the third of three country reports from our Results Data Initiative.

More information is available at
www.developmentgateway.org/expertise/results/