Results Data Initiative: Findings from Ghana

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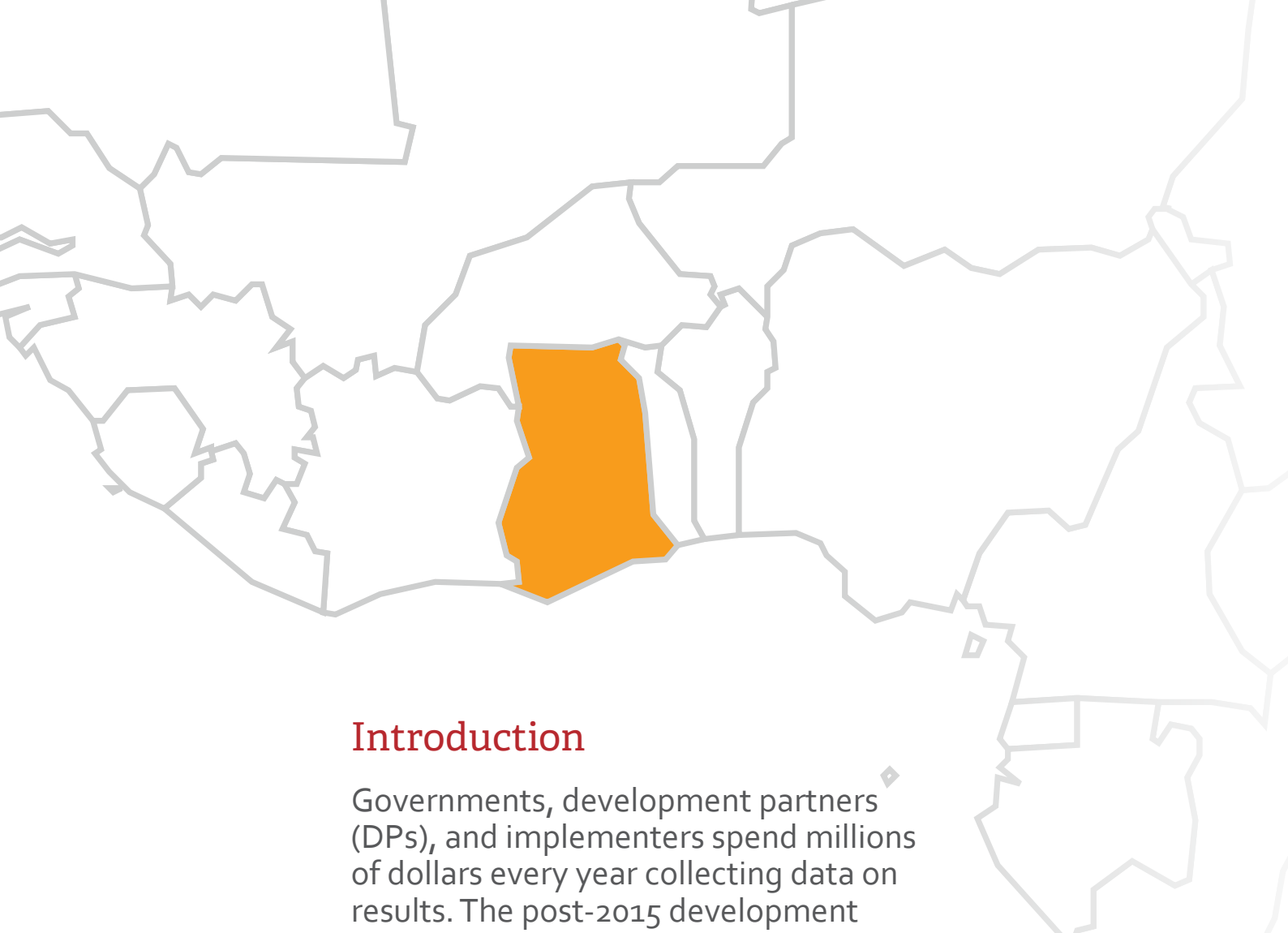
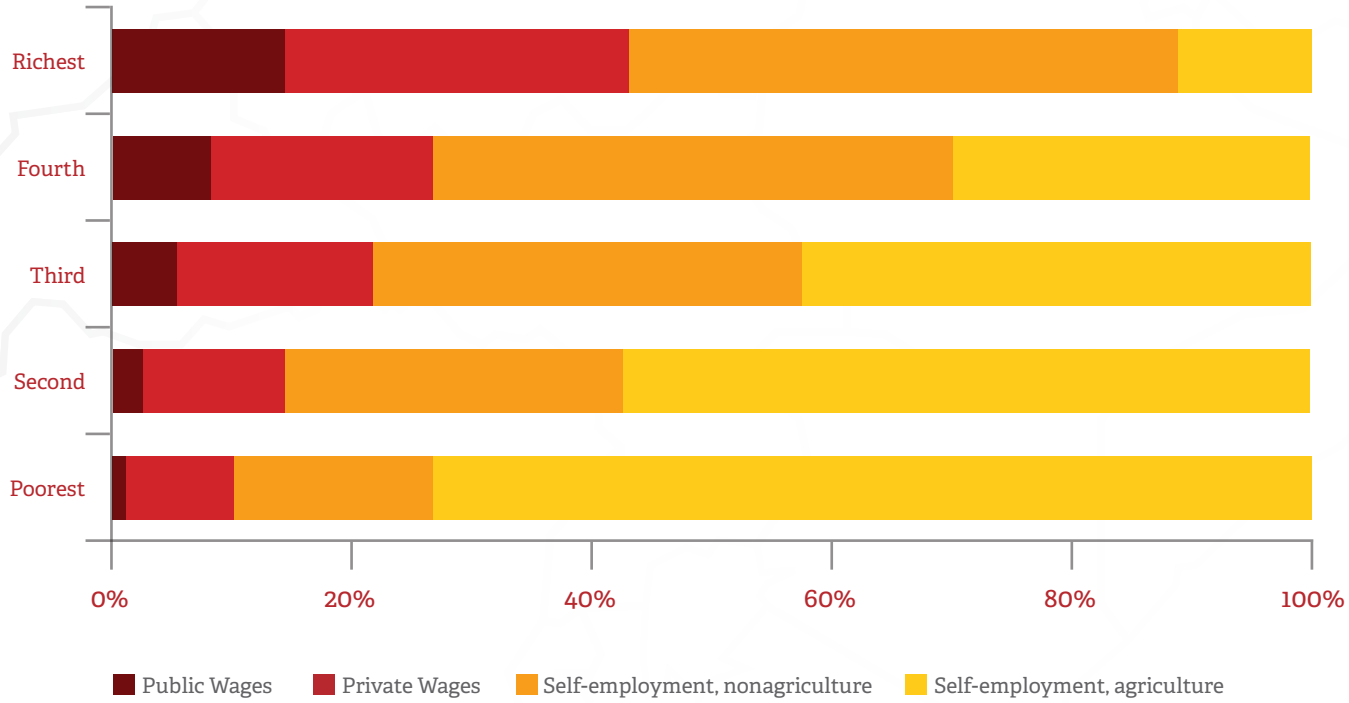


Introduction

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 is collected, shared, and used** in three countries: Ghana, Tanzania, and Sri Lanka, across the health and agriculture sectors. This report synthesizes our findings from Ghana.

Why Agriculture Results Matter: Employment By Income Level in Ghana, 2015



Source: Molini, Vasco, and Pierella Paci. 2015. "Poverty Reduction in Ghana 2015: Progress and Challenges." World Bank, Washington, DC.

Progress on Key Health Indicators in Ghana, 1988-2014

Rate	1988	1993	1998	2003	2008	2014
Infant mortality	77	66	57	64	50	41
Under-5 mortality	87	57	54	50	31	19
Vaccination	—	54	62	69	79	84
Fertility	6.4	5.2	4.4	4.4	4.0	4.2

Source: Demographic and Health Surveys 1988–2015: STATcompiler (DHS Program STATcompiler) (database), ICF International, Rockville, MD, http://www.statcompiler.com/.

Purpose

We aim to shed new light, both locally and internationally, on how results data is collected, shared, and used – and what can be done to improve quality and use of results data in Ghana, especially at local level. Our study explores results data primarily from the government perspective, while incorporating critical views from the DP community and NGOs. We hope these insights will inform future investments in results-based management in Ghana, and anticipate that these lessons will also be useful to others in the international community.

What Do We Mean By Results?

Our definition of "results" in this case 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 maternal mortality rates or increase in household incomes.

Analytical Approach

DG partnered with Research Trust Limited (RTL) to carry out qualitative interviews and analysis. Representatives from the Ministry of Food and Agriculture (MoFA), the Ministry of Health (MoH), the Ghana Health Service (GHS), the National Development Planning Commission (NDPC), civil society, and several DP agencies informed the interview guide, participant profiles, and sampling frame. Interviews were pre-tested by RTL's field research team and appropriate government permissions were granted.

Researchers mobilized into nine districts in Ghana's Western, Ashanti, and Northern Regions to conduct 112 in-depth, semi-structured interviews with respondents working locally in health and agriculture sectors. These were supplemented by 40 interviews with government, DPs, and CSOs in Accra, Kumasi, and Takoradi. Regions were selected to represent ecological and economic diversity. A focus on just 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 Ghana.

Background

Ghana has relatively advanced institutional foundations for results-based management. Some key elements include:

- Internal M&E units within each ministry, department, or agency (MDA) with a development focus.
- The NDPC, which has a national mandate for establishing the national development plan and coordinating reports on results and performance.
- An M&E Sector Working Group that coordinates donor support for results-based management. This group championed the Joint Agenda for Strengthening Monitoring and Evaluation and Statistics (JASMES) in 2013 as an initiative to improve data quality and statistical capacity; it has since stalled.
- Sector-specific investments in results data systems, including the District Health Information Management System (DHIMS) and the Ghana Agricultural Production Survey (GAPS).

In what follows, we present key findings on the six major themes of our initiative, highlighting both sector-specific and broader, more generalizable insights. We conclude with recommendations for government and DPs in Ghana, as well as for the international results management community.

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Theme 1:

Results Data Collection

We identified the kind of results data collected, how it is collected, and explored challenges with data collection. We also assessed the systems, processes, and tools in place for managing and using results indicator data. Finally, we explored how (and whether) respondents distinguish – and prioritize – between outputs and outcomes.

Health Results Data

Most respondents offered very favorable impressions of DHIMS, it ts utility, and its positive impact on their work. Our findings concur with other recent health sector assessments: DHIMS represents commendable forward progress on health data. It allows workers to collect, collate, and report on service delivery output indicators from the public health facility level upward. Roughly half of health clinics are public and half are private, and about 60% of non-public health clinics also report key indicators to DHIMS, as do most DPs and implementers. DHIMS' success so far should be lauded.

However **local service delivery workers continue to struggle under data collection burdens.** This forces trade-offs between data collection and patient care, causing data quality to suffer. The other human and financial costs of choosing between data collection and service delivery, while difficult to quantify, are also considerable. Health leaders called for more data-focused staff—or more front-line staff — to ease constraints.

"Sometimes only one person is working on patients and working on the data at the same time. So at the end of the day, relevant data is lost."

District Director of Health

Also, though many facilities have DHIMS access, **the health system continues to rely heavily on paper-based data collection and reporting.** Though facilities are expected to enter DHIMS data directly, we find that facility-level service output data is still collected on paper and sent to district offices to be digitized, causing redundancy and frustration. This is largely due to above-mentioned staff constraints, though limited technology skills, inadequate computers, and poor connectivity (especially in economically disadvantaged, remote areas) were also cited. So, while impressive, DHIMS has not yet eased the work of some of Ghana's most-burdened health workers.

Agriculture Results Data

Respondents expressed strong demand for IT systems and tools. Nearly all information is collected in-person by extension agents, then collated at the district office and reported upward. Data collection processes are well established, but remain largely paper-based outside of special projects funded by DPs. Thus results data management is confined largely to Excel and paper templates. DP-funded initiatives like the West Africa Agriculture Productivity Programme[1] have introduced tablet-based data collection tools for agriculture extension agents (AEAs). But these initiatives are limited and respondents called for technology to be expanded and institutionalized.

The GAPS strategic sampling approach is met with enthusiasm. AAgriculture indicators primarily capture production output data – mostly centered on extent and type of crop production – which is ultimately reported in MoFA's Annual Performance Report (APR). AEAs typically collect this data with a total coverage approach, gathering and aggregating data from every farmer. GAPS aims to complement and expand on this data collection using strategic samples of farmer groups – reducing the number of interviews required for equally representative (and more accurate) production and other agricultural data. AEAs still collect GAPS data on paper, but district officials use software to enter, report, and validate data. And MoFA endeavors to share final GAPS and APR data back with districts. Evidence suggests that this approach is poised to reduce the cost and increase the accuracy of output data collection in agriculture. GAPS has been implemented in 24% of districts so far; respondents called for it to be expanded.

Budgetary challenges are a major obstacle to data collection. Staff shortages, limited training, and logistical shortfalls severely impair agriculture activities—and by extension, data collection and quality. In addition to staff shortages, participants lamented a lack of transportation resources for reaching hard-to-access communities. In short, when AEAs cannot provide extension services, data collection naturally suffers. We also found that set-aside data collection budgets come only from some bilateral DP support, and **data costs must otherwise be absorbed – inadequately – within salary budgets, as** program budgets are scarce.

From time to time, DP-funded programs request (and pay for) supplemental data collection. But agricultural workers have many training and service provision responsibilities and report that **data collection is not often a top priority—unless DPs or NGOs provide supplemental income for a specific data need.**

> *Some donor projects provide data collection and management technology. However these tools are not institutionalized across the agriculture portfolio, so "often when the life of a project ends, the practice of the technology also ends."*
>
> Regional Agriculture Official

Outputs vs. Outcomes

We found few examples of ongoing work to explore linkages between changes in outputs and changes in outcomes at the local level. However, most respondents could distinguish outputs from outcomes, with probing. As expected, the bulk of data collection efforts are focused on counting the volume of activity-specific service delivery or production outputs, with some effort to track the availability of key inputs (e.g., staffing, medications, or agricultural inputs).

Most survey data, like the Ghana DHS – the common source for outcome indicators – is sampled and gathered every five (or more) years at regional level. No ongoing surveys provide outcome data at the local (district) level in either health or agriculture. Vital and civil registration are weak—only 30% of births are registered. But a new GHS/Grameen Foundation program[2] is demonstrating the operational value of birth registration data for local decisions. Securing more frequent, granular outcome information—through registration or new survey approaches—is needed to encourage more outcome-oriented decisions at all levels.

1. See http://waapp.org.gh/
2. See http://www.grameenfoundation.org/what-we-do/health/maternal-and-infant-health

Theme 2:

Data Sharing

We explored whether and how results data is shared within the government and between government, DPs, implementers and others. We also gauged demand for improved data sharing and access.

Data Sharing in Health

DHIMS is the primary data-sharing medium. It is *meant* to be available to all health-sector actors and captures key service output information from both government and non-government facilities. Regional and national offices, as well as some DPs, use it to access indicator data and summary reports. DHIMS is used to inform periodic reviews and meetings that include multiple health-sector stakeholders. But DHIMS access for non-government users is still limited – a source of frustration for some.

Local-level respondents do not perceive data sharing to be a major challenge. Our discussions and analyses did not uncover the data sharing "pain points" between local governments and other groups that we had expected. Besides occasional frustrations about DHIMS access, we found few specific examples where a needed indicator or piece of data could not be obtained.

But comparison of key indicators – especially across districts – is rare. Respondents seldom discussed inter-district data sharing or comparison, and focused mostly on formal, upward reporting. Benchmarking, comparison, and competition are not common considerations for health officials. However some compelling examples (see below) of intra-district benchmarking between facilities or community health worker zones demonstrated the policy-influencing potential of benchmarking.

Data Sharing in Agriculture

The data sharing culture is informal, relying on ad-hoc requests and personal relationships. Little structure or time is allocated to data sharing, resulting in weak knowledge management structures. NGOs, research institutions, and other MDAs request data from agriculture officials – usually in person. Agriculture officers also seek some indicator data from NGOs and research institutes, though ad-hoc arrangements can make it difficult to obtain this data. .

Respondents often called for data management technology and knowledge management processes at the district level, allowing agriculture data access for all government staff and collaborating organizations.

Data Sharing With DPs

The "status quo" of sharing *existing* data from government and DPs is generally perceived as adequate. In the health sector, both government and DPs are reasonably pleased with DHIMS. In agriculture, DPs, NGOs, and research groups can access the data they need and often fund government directly to collect new indicator data when needed. DPs of course still sponsor independent data collection when necessary to meet internal needs.

On the other hand, government officials frequently suggested that **they did not know what other results data DPs had that might be useful** – the topic had never been discussed. Local officials also noted instances of frustration when they were paid to collect new data but did not receive final reports or datasets in return.

We also found indications, especially in the health sector, that central-level officials are still more eager to know where off-budget DP funding is allocated than to know what results are produced. **Results data sharing is a secondary consideration when aid allocation remains unclear.**

Theme 3:

Data Quality

We assessed perceptions of data quality among the local actors who produce most of the data for results measurement in both health and agriculture. We asked respondents to rate overall data quality and discussed the factors that they see as determinants of quality.

Perceptions of Quality

Concepts like accuracy, timeliness, and completeness were used most often to conceptualize data quality:

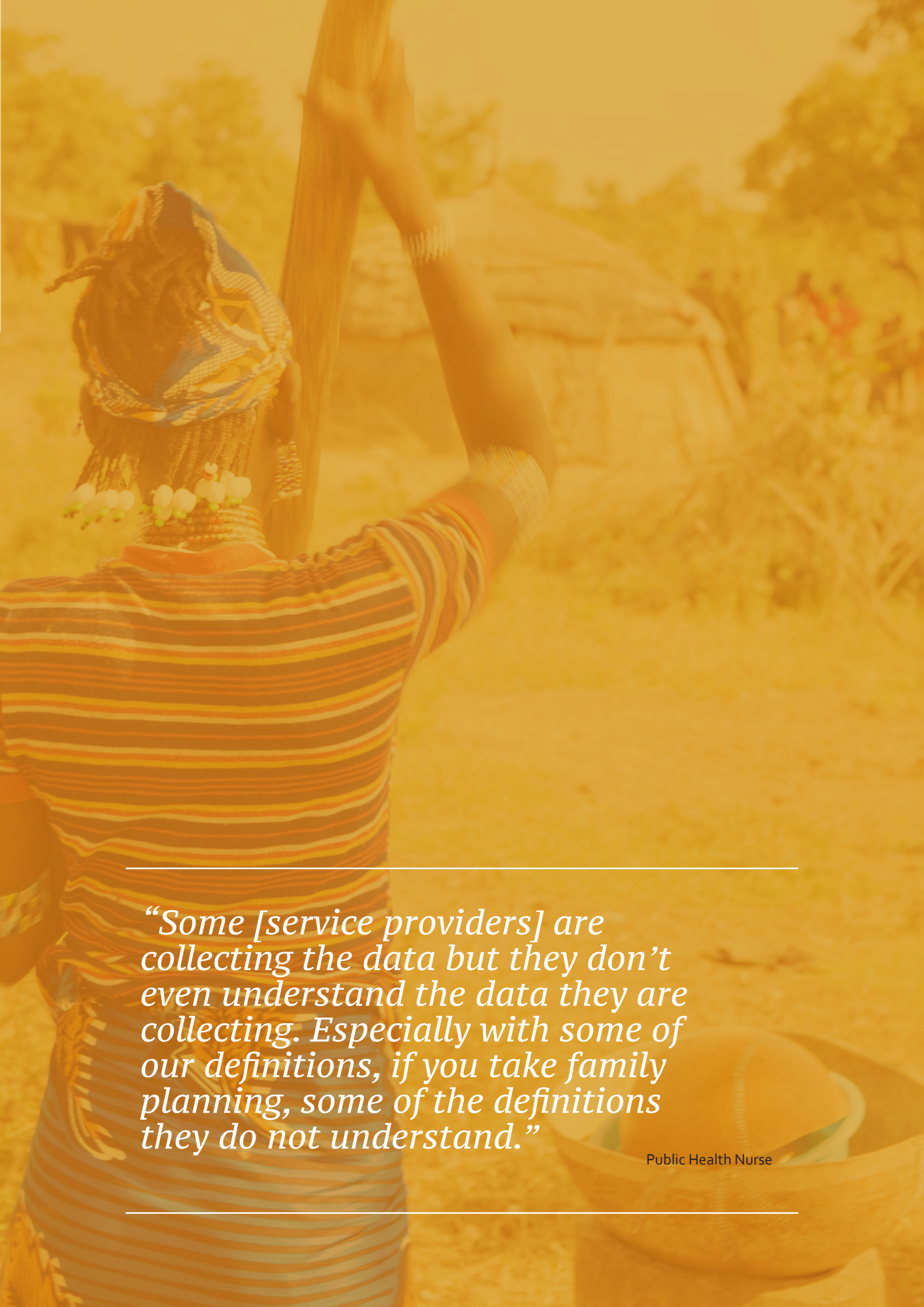
- **Timeliness.** One participant's statement captures a very common sentiment: "If you don't present [data] on time, it is not quality because the purpose for which it is needed [is] not met.".
- **Completeness.** Missing data, late data, and poorly estimated data were pervasive concerns across both sectors. Candid respondents indicated that falsified data is not unusual (especially in agriculture).
- **Accuracy.** One agriculture officer explained quality data as "...not cooked, not ambiguous...and the numbers are the reflection of what is on the ground."

Nearly all respondents self-rated data quality between 3-4 on a scale of 1 to 5 (with 5 being highest). Health sector respondents rated their data quality slightly higher than those from the agriculture sector. Not surprisingly, those who collect data rate quality higher than those who validate the same data. **While acknowledging many challenges, few respondents were highly critical of data quality.**

What Determines Data Quality?

We asked respondents "what determines quality data" in health and agriculture in Ghana. The main themes from these discussions include:

- **Resources.** Time and again, respondents emphasized t**hat resource constraints are a primary determinant of data quality.** Overworked staff, nonexistent travel budgets, and limited guidance constrain both collection and validation of accurate data.
- **Validation.** Seen as an important need but hard to achieve when administrators are under-staffed and resourced. With these constraints in play, validation too often takes the form of assumptions, guesses and "hand-waving."
- **Leadership.** Individual leaders are partially responsible for variance in data quality across locations. Some push hard for good data quality, while others may not even look at indicators before reporting them.
- **Inaccurate Baselines.** Since much agriculture data cannot be captured in person, false baselines from many years ago are still used to make (poorly-founded) projections to fill data gaps. Health officials noted that they do not have access to reliable key outcome information at local level.
- **Incentives.** Respondents in both sectors noted that data collectors often have no sense of how data will be used or why it should be collected, reducing incentives to produce complete, accurate data.



“Some [service providers] are collecting the data but they don’t even understand the data they are collecting. Especially with some of our definitions, if you take family planning, some of the definitions they do not understand.”

Public Health Nurse

Theme 4:

Data Analysis & Use

In response to call from government and DP informants, we explored how results data is analyzed for planning, decision-making, and resource allocation in both sectors. We discussed specific use cases for results data and discussed tools and analytical approaches. We also assessed the demand for data use and sought for compelling data use examples to guide our recommendations.

Data Use in the Health Sector

DHIMS is viewed primarily as a tool for aggregating and reporting up – and not necessarily analyzing –indicator data. On paper, DHIMS is the main tool for data analysis in the sector, providing a suite of dashboards and reporting tools that allow users to locally monitor trends for several health indicators. But the ultimate destination of DHIMS data is annual sector progress reports for national audiences. Senior GHS leadership was eager to understand whether and how DHIMS is used for local-level analysis. We found a *few* instances where DHIMS was used to inform the distribution of staffing, drugs, and other medical supplies; to target need areas for insecticide-treated nets; or to target health outreach programs. But these examples were infrequent; most respondents just use DHIMS for reporting.

Overall, our interviews did not yield many examples (despite consistent probing) where results data was used to alter a program or intervention. Primary uses for data at the district level are to justify additional staff requests; identify areas in need of new community health workers; and track the availability of drugs and medical equipment. These are of course valid uses of output data, allowing officials to reach more people or spend resources efficiently. But analysis – when it happens – **stops at identifying gaps, and is not focused on improving overall effectiveness.**

Data Use in the Agriculture Sector

Data use in agriculture is limited to production trend analysis, supplemented with qualitative insight. Production indicators are used to track and pursue national and district food security goals, and are seen as a proxy for economic and social wellbeing. This production data, coupled with qualitative insights obtained from farmers, is used regularly to inform where and when new farming technologies or crop/livestock varieties should be introduced. Production trends are also used when lobbying for funding from District Assemblies.

> *"When we gather the result, either it is positive or negative. When it is positive, we encourage farmers to accept and adopt. For example the [new rice variety] is showing positive output. The production is high. So we encourage the farmers to accept and adopt it."*
>
> District Director of Agriculture

We found very few examples of deeper data analysis either locally or nationally. **Several respondents lamented a lack of more outcome data – like post-harvest losses or farmer income – to inform decisions.**

Conclusions on Data Use

Overall, **most respondents viewed data interpretation as a responsibility of more senior officials at the regional or national levels.** Daily responsibilities for local officials are to collect and collate data, report it to the district, and produce occasional reports. Data analysis is not covered in government training curricula, and formal evaluation is uncommon.[3] While respondents indicated that analytical skills were lacking, they did not often ask for training on data analysis. Instead, participants asked for training that would inform their more pressing daily tasks: data collection and validation.

We conclude that **incentives for using results data are absent because analysis is not required, nor is it explicitly recognized or rewarded.** Government leaders expect staff to collect and report data according to guidelines. Pressure from superiors, when it comes, is to validate and complete indicator data, not to use it. Thus any dynamic analysis is done by a handful of independently motivated people. But we did identify compelling examples of "positive deviance," where public servants used even simple analyses of performance data to meaningfully influence resource allocation or policy. With encouragement, more powerful, widespread data use is possible.

Results data can have a powerful effect when local decision makers analyze and communicate key results information.

In one case, a District Health Director was concerned about unusually **high maternal mortality rates in some communities within her district.** The health team used facility data from DHIMS to display and compare maternal mortality figures for each of the communities. The data were presented during a District Assembly meeting and the alarming figures **caused a stir, compelling Assembly members for those communities to take action.** Several assemblypersons quickly arranged accommodation and other resources to bring new community health workers to their areas. **Health worker coverage in the district has now substantially increased,** though resulting changes in maternal mortality have not yet been assessed.

3. See "Study on the Demand For and Supply of Evaluation in Ghana," CLEAR-AA, 2013

Theme 5:

Results for Planning and Resource Allocation

Since a primary goal of data-driven development is to improve resource allocation, we aimed to understand how results data informs local budgeting and planning decisions in health and agriculture. We explored which indicator-based goals drive policy, assessed possible connections between results indicators and budget allocations, and investigated whether there are unmet data needs for the planning process.

Insights on Planning and Budgeting

Local goals are based on national indicators, and most actual budget comes from national sources. Both health and agriculture work plans are created at the district level with guidance from national agencies. While some participants could cite specific district or region goals, these did not deviate from national sectoral strategies. While not an area of frequent concern, some respondents consider national goals less relevant for local priorities.

> *"If you are in Accra and you are designing monitoring and evaluation for me in Bole, how can that be reflective of what is in Bole?... [some] thematic areas are not applicable here."*
>
> District Agriculture Official

A combination of national government and locally-generated funds are intended to support district-level activities; but since local funds are seldom available in practice, nearly all funding comes from the national government (and is devoted primarily to salaries, not programs).

Across the board, **respondents assert that budgets are inadequate for current activities, much less new initiatives.** In many instances only a fraction of promised budgets are released, and often very late. Concerns with politicization at the local level are sometimes a dis-incentive to engaging in the budget process. These concerns lessen interest in expending effort on long-term budgets and plans. Day-to-day expediency is instead the primary focus, diminishing the usefulness of results data.

Our findings reinforce a critical point about results data: **the perceived value of a results indicator depends on the resources available to *do something* as a result of that data.**

Links Between Resources and Results?

We observed that **results indicators have no bearing on budget decisions,** in particular because release of funds is so constrained. If a district agricultural office does not receive its First Quarter 2015 allocation until December 2015, few connections between performance indicators and budget can be drawn. Participants struggled to offer concrete examples of a time when results data influenced a long-term budget or plan.

"Before the onset of the year we presented our budget. Up till now nothing has come to us. The effects of this are enormous… all activities come to a halt… we do demonstration farms as a practical service to farmers. But because we do not have money we are not able to organize the demonstration farming. So for now [we] just go to the farmers and lecture them…"

Agriculture Information Officer

Results Data Needs for Planning?

With these constraints in mind, participants reluctantly accept the results data they have to inform current planning decisions. We attribute this finding to the many impediments to budgeting and planning that prevent results data from playing a more prominent role in the process.

Theme 6:

Feedback

We concluded with two questions about feedback: (i) do data producers and users receive feedback about the data they report? and (ii) do local workers receive feedback about the quality of their services?

Feedback About Data

For the most part, **the feedback received on results data is about validation and quality, not about efficiency, effectiveness, or quality of services.** Indicators are seen as a tool to ensure that services are delivered – not to measure the results of services.

> *"Monthly feedbacks [sic] are usually about the data quality, either you have not submitted the dataset or particular dataset is not accurate and all that..."*
>
> A District Director of Health

Feedback About Services

Constituent feedback is received occasionally, but not systematically. In both sectors, respondents discussed calls from dissatisfied consumers, concerned notes from local service delivery staff, and unannounced visits from complaining citizens. This feedback is reportedly used to inform general discussions about plans or interventions, but workers do not have specific forms or mandates to collect it. Constituent satisfaction is considered important by local staff but not consistently measured.

> *"During durbars [public forums], we may want them to come out with how the service is going on well with them or whether there are areas where we need to maybe improve upon."*
>
> Public Health Nurse

Way Forward

To conclude, we return to our original question: are investments in results data paying off?

To some extent; yes. DHIMS and GAPS represent important forward progress in data collection. Data quality issues are taken seriously. And some self-motivated officials use results indicators to inform their plans and projects. These positive examples should be lauded.

But **widespread demand for results data is limited by incentive structures and resource constraints. Limited demand affects both quality and use.** Incentives are to collect and report results indicators, and not to analyze and use for decision-making. Staff shortages and limited funds for data collection affect quality, and limited activity budgets impair the use of data for decision-making. The institutional connections between data, performance and resource allocation are tenuous. We also uncover technical and capacity needs, including calls for better data collection tools and training.

Efforts to improve the results data "ecosystem" should focus as much on the political economy of decision-making as on promoting skills and technology.

We offer recommendations for the government and development partners, as follows:

For Government

Create Authorizing Environments for Data Use. For incentive structures to change, rhetoric from senior government leaders (not just M&E officials) should increasingly reflect a commitment to local data use. Meetings and official communications at each level should emphasize why data is produced and for whom. Training for data collectors should emphasize for what purpose data will be used. With this environment in place, additional training on data analysis skills should be provided to district-level directors and M&E officers.

Promote Benchmarking. Peer-to-peer comparisons of performance data in both sectors are currently rare. Infusing benchmarking into meetings, reports, and official communications will further build incentives to (i) produce complete results data and (ii) use it effectively for planning and program improvements.

Reward Data Use. Offering awards, prizes, or grants for exceptional cases of data analysis and use has been successfully used elsewhere to create incentives for data quality and use. Similar approaches in Ghana would (i) promote widespread learning from successful data use examples, and (ii) encourage more people to take on innovative analysis.

Pursue Disaggregated Outcome Data. Emphasis is on output data at local level, and connections between activities and tangible outcomes are not systematically made. Regular district-level outcome data is not available. Methodologies from GAPS could be expanded to change this in the agriculture sector; comparable methodologies in health like Lot Quality Assurance Sampling (LQAS) could also yield useful, frequent outcome data. But improving civil registration and vital statistics should be the primary focus. GHS recommendations for improving the civil registration system should be wholeheartedly supported across sectors.

Critically Reduce Routine Indicators. Personnel spend a great deal of time completing templates to report on program activities and outputs. Consider reviewing and streamlining indicators to remove those not meaningfully used to assess key government priorities, inform local decisions or fulfill international reporting requirements.

Increase Local Staff. We consistently found that local workers must frequently choose between collecting accurate data and delivering services, causing both activities to suffer. Limited staff time is the largest impediment to good data quality and meaningful data use. Better-staffed health facilities and expanded AEA ranks would help address this.

Set Aside Resources to Improve Data Quality. Limited program budgets—and in particular, nonexistent budgets for data collection and validation—are the second major impediment to results data quality and use. But a great deal of valuable staff time is already spent collecting data, so dedicated budgets for data-related activities – coming from government or partners – would significantly improve the data that is *already being collected*.

For Development Partners

Further Streamline Indicators. With context on the local constraints of data collectors, continue to work as a community and with government to streamline and prioritize SMART[4] indicators, and to ensure valuable use cases for each data point. Acknowledge the significant human and financial costs of each indicator and plan accordingly.

Make Technology Investments in Agriculture. Program-specific investments in technology for agricultural data collection and management have been well received and well used. Similar technologies should be institutionalized across the sector.

Provide Additional Support for Routine Data Collection. As indicated throughout this report, data collectors are paralyzed by staff and budget constraints, making data quality suffer. Some district offices report that bilateral funding from Canada has alleviated some of these challenges. More similar funding should be considered, especially in the wake of SDG commitments to improve country data systems.

Promote Local Data Use. Data-centered training and awareness programs for local governments and organizations are needed. In addition, prizes, travel, un-earmarked program funds, or other incentives for innovative uses of results data would complement government efforts to foster incentives for data use. Similar initiatives should be considered for CSOs and implementing organizations.

Proactively Make Your Data Resources Available to Government. Make government counterparts aware of potentially useful DP-funded data to which they do not have access. Sponsor discussions and/or trainings on uses for alternative results data sources; help counterparts legitimize the use of non-government data to inform planning and management.

Support Efforts to Measure Local Outcomes. Civil registration and vital statistics should be primary sources of population outcome data. The Ghana Statistical Service and Ministry of Local Government are already working to improve quality and use of birth registration data. Their recent assessment of the civil registration and vital statistics system outlines a detailed framework for creating the legal and institutional framework to accelerate their civil registration goals. DPs should use this framework as a vehicle to help meet demand for civil registration data. Globally, alternative sampling techniques (such as LQAS) also show promise for efficiently collecting local outcome data.

4. Specific, Measurable, Achievable, Realistic, Time-bound

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