



Performance Evaluation of the Global Open Data for Agriculture and Nutrition Programme

Final Evaluation Report

Submitted to DFID

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Acronyms

CA	Contribution Analysis
CABI	Centre for Agriculture and Bioscience International
CSO	Civil Society Organisation
CTA	Technical Centre for Agricultural and Rural Cooperation ACP
DFID	Department for International Development
ESG	Evaluation Steering Group
FAIR	Findable, Accessible, Interoperable and Reusable (Data principles)
FAO	Food and Agriculture Organisation
GACS	Global Agricultural Concept Scheme
GODAN	Global Open Data for Agriculture and Nutrition Programme
IATI	International Aid Transparency Initiative
IDS	Institute of Development Studies
IP	Intellectual Property
KALRO	Kenya Agricultural Research and Livestock Research Organisations
MOOC	Massive Open Online Course
OD	Open Data
ODAN	Open Data for Agriculture and Nutrition
OGP	Open Government Partnership
ODI	Open Data Institute
P4CD	Programme for Capacity Development in Africa
PUSH	Presidents Unite to Solve Hunger
TFF	Thought for Food Foundation
ToC	Theory of Change
TOR	Terms of Reference
USDA	United States Department of Agriculture
VEST	Vocabularies, Metadata Sets and Tools

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The views expressed in this report are those of the evaluation team only. They do not represent those of DFID, or any other organisation mentioned in this report. Errors and interpretation remain the sole responsibility of the authors.

Summary

Global Open Data for Agriculture and Nutrition Performance Evaluation

- GODAN Initiative**
- 2014-2020
 - £4.8 million DFID funding
 - 1000+ Network Members



- Performance Evaluation**
- 49 interviews
 - Feedback from 28 countries
 - SenseMaker online survey
 - Literature review



H1: GODAN **equipped** its stakeholders to publish, access and use open data for agriculture and nutrition by providing an evidence base for open data activities
"[GODAN] contributed to the way in which we now think around open standards for data and a broader project about creating guidance around how to create an open standards was definitely informed by GODAN work done on standards map." (GODAN Action partner)

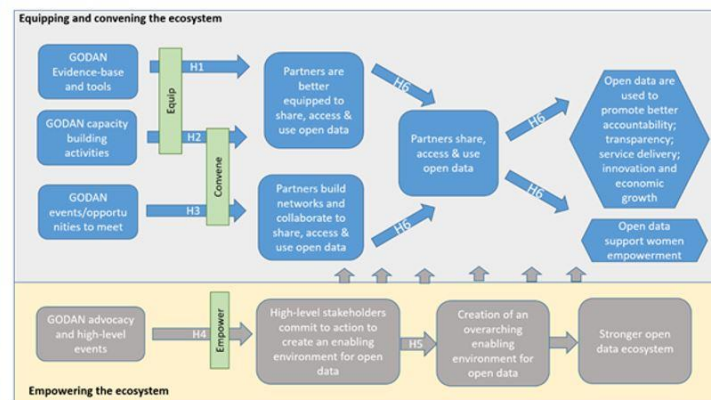
H2: GODAN **equipped** its stakeholders to use and publish open data for agriculture and nutrition by building their capacity to address bottlenecks of open data use
"The capacity building has had an impact on the way we use data and how we should produce the data and how we should publish on a platform." (GODAN Champion)

H3: GODAN **convened** its partners and stakeholders by creating space to collaborate and build networks to enable access, sharing and using of open data for agriculture and nutrition
"Meeting GODAN in Tanzania and discovering the tremendous potential for using open data for agriculture... It inspired me to be involved in a global network movement that we are building right now." (African Rights Activist)

H4: GODAN's high-level events and advocacy prompted high-level actors to take policy and political actions to **enable and promote** sharing, publishing and using open data for agriculture and nutrition
"It's been a powerful convening power by marking out a space and saying we are going to talk about open data for agriculture and nutrition that makes people realise that there is something to be talked about." (Private Sector)

H5: The policy and political actions that were triggered by GODAN **empowered** the ecosystem by creating an overarching enabling environment for open data for agriculture and nutrition
"Lobbying from GODAN has influenced how governments approach data, and they are trying to gather more and better. This was not there before." (Journalist)

H6: The various GODAN activities and resources **contributed to** an increased supply and use of open data for agriculture and nutrition to improve accountability, transparency, service delivery, innovation and economic growth
"GODAN is mission accomplished. Open Data covers all topics but the focus on Open Data for Agriculture and Nutrition with a common thread that links to global food insecurity will continue to generate impacts into the future that we won't realise." (Funder)



Recommendations

- Facilitate communication between political and technical level stakeholders
- Increase attention to the use of open data to demonstrate developmental benefits
- Explicitly address the politics of Open Data
- Increase emphasis and awareness of the particular risks and challenges of opening nutrition data
- Update gender policy and set ambitious targets on gender and diversity representation
- Make programmatic data open, including members list and monitoring data
- Provide stronger sector support and brokerage

Evaluation conducted for DFID by Institute of Development Studies (IDS), UK, 2020

Executive Summary

Overview

This report presents a performance evaluation of the Global Open Data for Agriculture and Nutrition (GODAN) initiative, a programme jointly funded by the governments of the UK, US and Netherlands and officially launched by the Secretary of State at the Open Government Partnership (OGP) Summit in October 2013. DFID provided 4.78 million pounds in support to the GODAN Initiative over five years through two different components: 1) the GODAN Secretariat, funded from November 2014 to August 2019; and 2) GODAN Action, which ran from June 2016 ended in January 2020. This performance evaluation was conducted between January and April 2020.

The GODAN Secretariat was implemented by the Centre for Agriculture and Biosciences International (CABI) and sought to empower the open data ecosystem through high-level advocacy, convening a global network of open data stakeholders, developing policy guidelines, and supporting capacity development. GODAN Action was implemented by a consortium of seven partners who collaborated to deliver a suite of agricultural and nutritional open data research and capacity building projects structured around three focal areas: open data standards, impact methodology, and capacity building and three thematic areas: land, weather and nutrition. The two components of the GODAN initiative worked together to promote more efficient, innovative, and equitable use of agricultural and nutrition data to contribute to economic growth and better-nourished societies.

Evaluation approach

The evaluation uses a theory-based approach inspired by contribution analysis (CA) as the overarching methodology to assess the causal pathways and assumptions in the GODAN theory of change in order to understand how GODAN's interventions have contributed to building an open agricultural and nutritional data ecosystem. The evaluation process reconstructed the GODAN theory of change and identified 6 causal hypotheses, associated risks, and assumptions which provided a framework to assess the evidence generated. Primary and secondary data sources - key informant interviews, SenseMaker Survey, a review of GODAN documents and broader open data literature – were triangulated to inform the following analysis of GODAN's performance against each of the causal pathways in the theory of change.

Findings

Hypothesis 1: GODAN equipped its stakeholders to publish, access and use open data for agriculture and nutrition by providing an evidence base for open data activities:

GODAN has increased the supply and availability of ODAN articles, case studies and stories, as well as guidelines on standards and evaluation methodologies to stakeholders active in advocating for changes in open data policies or motivated building their technical capacities. GODAN's categorisation of stakeholders as open data users, publishers or enablers masks the broad range of stakeholders in the open data ecosystem, from UN agencies, government, donor and research organisations and intermediary organisations to civil society organisations (CSOs) and farmers organisations, including groups with lower levels of accessibility due to limited access to technology or language. There is an implicit assumption that intermediary organisations use these resources to promote the benefits of open data for end users but also a risk that open data leaves these groups further behind.

Hypothesis 2: GODAN equipped its stakeholders to use and publish open data for agriculture and nutrition by building their capacity to address bottlenecks of open data use:

GODAN was particularly successful in its use of online courses and webinars, face-to-face trainings, seminars and workshops to increase awareness and abilities in ways that contributed to the removal

of bottlenecks and the building of the capacity and networks of stakeholders to access, publish and use ODAN. The evidence supports the utility and relevance of training materials. GODAN also made significant efforts to increase the accessibility of training materials by supporting training participants to continue to roll out and recommend training materials for their own activities and actions. There were some barriers to extending the reach and accessibility of capacity building activities with the majority of training materials only available in English. 30% of those participating in training were women and the goal remains to reduce this gap further.

Hypothesis 3: GODAN convened its partners and stakeholders by creating space to collaborate and build networks to enable access, sharing and using of open data for agriculture and nutrition:

GODAN created an impressive breadth of network members, which far exceeded original targets and successfully built awareness of the potential of Open Data for Agriculture and Nutrition in high-level government, multi-lateral institutions and research institutes. However, the evidence was mixed on the performance of the network to facilitate meaningful access, use and publication of open data. The evaluation has uncovered questions about whether GODAN's success in convening a breadth of stakeholders might have come at the expense of depth of engagement with a strong sense that that the size and scope of the network was too ambitious to the relative size and resources of the Secretariat. In many ways this 'stretch' was inevitable given the scope of GODAN's mission to empower the open data ecosystem both agriculture and nutrition with a mandate that prioritised both global advocacy and developmental outcomes.

Hypothesis 4: GODAN's high-level events and advocacy prompted high-level actors to take policy and political actions to enable and promote sharing, publishing and using open data for agriculture and nutrition:

GODAN's high-level events and advocacy have been very successful at convening political actors and creating awareness and commitments to ODAN at the highest political levels. These high-level events have increased the visibility and legitimacy of GODAN, which has created a domino effect that has enabled GODAN to move from one opportunity to the next. GODAN's New York Summit lay the foundations for future political engagement, particularly the Nairobi Declaration which subsequently opened doors for ongoing policy advocacy across Africa. GODAN's focus on agriculture and nutrition gave it a unique niche and innovative entry points to political conversations on open data. These ongoing engagements across political spaces have undoubtedly contributed to a more conducive enabling environment for open data, although it is hard to pinpoint specific policies and initiatives that can be attributed to GODAN's advocacy. More could have been done to connect the high-level advocacy work of the Secretariat with the technical work delivered by GODAN Action. GODAN has also influenced the institutional policies of key organisations such as FAO and Syngenta by creating spaces to consider the implications of and processes for opening data.

Hypothesis 5: The policy and political actions that were triggered by GODAN empowered the ecosystem by creating an overarching enabling environment for open data for agriculture and nutrition:

GODAN actively engaged with the existing enabling environment and established strong political connections in Kenya. These together created the possibility of convening a ministerial conference which brought together 15 African countries and led to the Nairobi Declaration for open data collaboration in the nutrition and agriculture sectors. This aimed to combat the global food security crisis. The evaluation found strong evidence of GODAN's role in contributing to open data and agricultural policies and initiatives in Kenya, as well as evidence of delivering multiple training events.

Despite the range of activity, more could have been done to connect the political and technical elements of GODAN's work to empower the ecosystem and address the multiple barriers to open data access, publishing and use. Evidence of how the Nairobi Declaration has translated into political commitments amongst other signatory countries is mixed, with important advances in Ghana in 2019, with evidence suggesting that the Ghanaian national open data ecosystem is increasingly empowered. The enabling environment for ODAN in other African countries is still nascent.

Hypothesis 6: The various GODAN activities and resources contributed to an increased supply and use of open data for agriculture and nutrition to improve accountability, transparency, service delivery, innovation and economic growth.

GODAN activities and resources have contributed to an increased supply and use of open data for agriculture and nutrition by creating awareness, securing political buy-in, and supporting the producers of open data with standards, tools and training to enhance skills and abilities. There is limited evidence of the extent to which this improved innovation and service delivery, and least evidence that it has led to transparency and accountability or economic growth, which would also support the empowerment of women.

Conclusions

The GODAN Secretariat, GODAN Action, and the strong collaborative partnership between these institutions provided a committed and dynamic core to the GODAN Network and created a constructive and innovative space that has undoubtedly equipped, convened and empowered the open data ecosystem. GODAN has been successful in signing up a breadth of GODAN members with an implicit assumption that the intermediation needed to bring the supply and demand of ODAN will emerge autonomously within the network. There has been less emphasis on depth of engagement and facilitating horizontal relationships between intermediaries to foster ODAN innovations by connecting supply and demand. There is limited evidence of a whole systems approach and focused strategy to join up GODAN's political and technical work, despite clear advances made at both levels. GODAN's performance has been limited by the broad scope of its mandate which has necessarily involved trade-offs and limited the capacity for sustained interventions to connect political, technical and operational dimensions of ODAN. GODAN put more energy and resources into agriculture than nutrition and despite the work of GODAN Action in this area and work to promote reliable source of open nutrition data such as the Global Nutrition Report,¹ more could have been done to engage with the risks and challenges of opening up nutrition data. Open data has political, technical, social, and economic dimensions, all of which GODAN addressed to varying degrees. Overall, our evidence suggests that the GODAN initiative has substantially moved the conversation on open data for agriculture forward.

1 <https://www.godan.info/pages/global-nutrition-report-and-open-data-httpswwwyoutubecomwatchvecqkokaky2w>

Recommendations

1. **Facilitate communication between political and technical level stakeholders:** A more explicit strategy on facilitating communication between different levels and areas of government is recommended. Other stakeholders should be brought into those conversations as relevant to capitalise on the power of the GODAN network to create 'innovation systems' and identify synergies and opportunities for innovation and new services.
2. **Increase attention to the use of open data to demonstrate developmental benefits:** Identifying a flagship issue or challenge and then focusing various elements of GODANs work around this, as demonstrated by the prioritisation of thematic topics in GODAN Action, can support a more systemic approach that draws upon the technical and political dimensions of GODAN's work to bring together open data stakeholders to identify and promote solutions that drive transformative change.
3. **Explicitly address the politics of open data:** GODAN should more explicitly address the politics of open data in its theory of change and clearly articulate its assumptions of how GODAN promotes equitable access to the benefits of open data. The assumption that benefits from a stronger open data ecosystem will trickle down to women, smallholders and the disabled is insufficient and needs to be reassessed if future GODAN activity is to achieve the objective in GODAN's vision statement to produce more equitable agriculture and nutrition systems.
4. **Increase emphasis and awareness of the particular risks and challenges of opening nutrition data:** GODAN needs to acknowledge the inherent differences in agriculture and nutrition data and acknowledge the specific risks and challenges with regards to opening nutrition data. GODAN should revisit and clearly articulate assumptions around the dynamics between agriculture and nutrition and ensure that sufficient resources and dedicated attention are invested in nutrition as well as agriculture.
5. **Update gender policy and set ambitious targets on gender and diversity representation:** GODAN should update its gender mainstreaming policy to apply a gender mainstreaming approach that integrates gender into its training materials and guidelines and identifies clear pathways to deliver gender equity and diversity. The gender policy should include the continuing collection of gender-disaggregated data and should incorporate mechanisms to periodically reflect on targets for female participation and strategies in order to support women's agency and leadership both within GODAN Secretariat as well as across the open data sector.
6. **Make programmatic data open, including members list and monitoring data:** As a global open data advocate, GODAN should be a standard-bearer in this field and present itself through a website which upholds the highest open data standards, such as the FAIR Data principles.
7. **Provide stronger sector support and brokerage:** GODAN should reflect on how to best nurture and consolidate its global network and how to deliver an effective brokerage function and whole systems approach to ODAN. A strengthened brokerage function should place greater emphasis on monitoring the collaborative initiatives that emerge under this mantle to continue to build the evidence base and identify areas or opportunities where further investment and support from GODAN could add value or create a whole that was more than the sum of its parts.

1. Introduction

The Department for International Development (DFID) commissioned the Institute of Development Studies (IDS) to undertake an independent performance evaluation of the Global Open Data for Agriculture and Nutrition (GODAN) programme. The evaluation encompasses the GODAN Secretariat, GODAN Action, and the GODAN Network. Together they aimed to support global efforts to make agriculture and nutrition data available, accessible and usable for unrestricted use worldwide. This opening section outlines the context, purpose, scope and focus of this evaluation.

1.1 Purpose, scope and focus of evaluation

The evaluation was designed to meet DFID's accountability requirements and project completion report, as well as inform the GODAN Secretariat's learning as it enters Phase II. The evaluation covers the period from the programme's inception in 2014 until August 2019, in the case of the GODAN Secretariat, and until January 2020 in the case of GODAN Action. This evaluation does not include Phase II of the GODAN Secretariat, which began in September 2019, although it is hoped that the findings will help inform GODAN's future strategy as it enters into Phase II.

The key stakeholders of the evaluation are DFID policy and programme staff, the GODAN Secretariat and GODAN Action, and staff of the US Department of Agriculture. The evaluation has additional target audiences that include other international donors, agencies, and stakeholders investing in open data and other programmes that support interventions into digital tools for agriculture, open data for development, and influencing organisational and governmental policy on data. The evaluation documents whether and how interventions within the GODAN programme influenced positive behaviour change in key actors within the open data for agriculture and nutrition ecosystem. The evaluation will also reflect on the governance of, and relationship between, the GODAN Secretariat and GODAN Action.

The objectives of the evaluation were to assess the performance of the GODAN Secretariat, GODAN Action, and the GODAN Network which together aimed to support global efforts to make agriculture and nutrition data available, accessible, and usable worldwide. The overarching purpose of the evaluation is to capture evidence of the contribution of GODAN to its stated outcomes and outputs as outlined in the programme log frame and summarised in Box 1.

- **Outcome:** An open agricultural and nutritional data ecosystem that facilitates increased supply and use of agricultural and nutritional open data for enhanced accountability and transparency, improved service delivery, innovation and economic growth.
- **Output 1:** Mobilizing key actors to collaborate and commit to actions that will lead to a strengthening of the open agricultural and nutritional data ecosystem in developing countries.
- **Output 2:** Collecting and compiling tools, stories, case studies and papers that equip key actors to strengthen the open agricultural and nutritional data ecosystem in developing countries.
- **Output 3:** Improved standards and interoperability for open data for agriculture and nutrition.
- **Output 4:** Impact case studies and impact methodology.
- **Output 5:** Building capacity to use open data for agriculture and nutrition.

Box 1: GODAN log frame outcome and outputs²

² Outputs have been drawn from the logical framework provided in the TOR. This logical framework is not dated in the TOR, and it is therefore unclear how recently it has been updated. Cross referenced with V9 28th January 2019.

1.2 Context

The concept of GODAN originally emerged from the G8 Summit in 2012 which identified the potential of open data to support agriculture and nutrition. The GODAN initiative emerged as a collaboration between the US and UK governments as part of the transition of G8 leadership from the US to the UK. During 2013, the concept of GODAN was developed between USDA and DFID, in consultation with leading organisations working on data and technology in agriculture, such as the FAO, the ODI, CABI, and GFAR. This led to an initial meeting of key stakeholders hosted at the FAO in 2014, which explored how to turn this interest group into a movement and consider the theory of change of how open data could strengthen agriculture and nutrition.

Emerging from these conversations, DFID developed its business case and made a financial commitment of £2,460,000 to the GODAN Secretariat over five years (November 2014 to October 2019). An agreement was reached to administer these funds through the USDA, to reduce administrative and overhead costs and simplify reporting requirements. The Dutch government and FAO also allocated a half time post to help get GODAN off the ground. A call to establish a small Secretariat was put to tender which was won by CABI International. In addition, the UK has provided £2,080,000 in support of GODAN Action.

The GODAN programme sought to promote more efficient, innovative, and equitable use of agricultural and nutritional data, as a means to contribute to economic growth and better nourished societies. The programme sought to increase the supply and use of agricultural and nutritional open data for enhanced transparency and accountability, improved service delivery, and economic growth. GODAN was launched in 2 components. Firstly, the GODAN Secretariat was created through a competitive process and was hosted by CABI to work on policy research and convene high-level advocacy to promote conducive policy and regulatory environments that support open data. This was later complemented by the creation of GODAN Action, a consortium of seven partner institutions: Wageningen Environmental Research (lead), Agroknow, CTA, FAO/GFAR, IDS, Land Portal, and ODI³. These partners were already active in the open data space and aimed to provide the tools, resources, and training to promote the publishing and use of open data at a more operational level and thus support more inclusive benefits.

1.2.1 GODAN Secretariat

The GODAN Secretariat was established to increase coordination, mapping, impact documentation, knowledge management, and advocacy amongst partners who work with open data in the field of agriculture and nutrition. Its aims were to convene existing partners and recruit new organizations to join GODAN; support the empowerment of partners to advocate for high-level political and policy change and innovation through open data; and equip partners with tools, stories, case studies, and papers. The Secretariat was co-funded by several other parties including the United States and Netherlands governments, CABI, and the UN Food & Agriculture Organisation. The GODAN Secretariat facilitated lesson-learning and common advocacy messages amongst GODAN partners but was explicitly not intended as an implementation body in order to ensure it did not compete with the activities of its members (GODAN Business Case). The Secretariat's international advocacy activities were expected to lead to national open data initiatives with agricultural or nutritional open data as a core focus. Additionally, the GODAN Secretariat was expected to host a showcasing event that identified 'what works' in open data initiatives. The maximum total UK financial contribution was intended to be £2.4m over 5 years to the Secretariat specifically.

³ An additional partner AidData left the consortium at the end of the inception phase.

1.2.2 GODAN Action

GODAN Action was established to produce a suite of agricultural and nutritional open data research and capacity-building projects. These were considered to be a UK-specific contribution to the overall objectives of the GODAN initiative. GODAN Action had three focal areas: 1) developing and reconciling international agricultural open data standards and the interoperability of systems; 2) developing new tools and a methodology to measure and evaluate the impact of open data initiatives; and 3) developing the capacity of interested parties, such as data intermediaries or citizens, to understand, visualise, and use open data in agriculture and nutrition. During each year of implementation, GODAN Action focussed on specific themes that fell under the umbrella of agriculture and nutrition data that included land data, weather data, and nutrition. The maximum total UK financial contribution was intended to be £2.080,000 over 4 years.

1.2.3 GODAN Network

The GODAN programme's geographical coverage extended worldwide but placed a focus on holding activities in developing countries. The GODAN Network itself currently has over 1,000 members globally.

For the purpose of this report, the GODAN initiative refers to the combination of both GODAN Secretariat and GODAN Action, as the focus unit of the evaluation. Where findings relate to either GODAN Secretariat or GODAN Action this will be specified.

2. Evaluation Approach and Methodology

2.1 Evaluation Approach

The evaluation uses a theory-based approach inspired by contribution analysis (CA) as the overarching methodology to assess the causal pathways and assumptions in the GODAN theory of change (ToC). This is to understand how GODAN's interventions have contributed to building an open agricultural and nutritional data ecosystem that facilitates increased supply and use of open data which enhances accountability and transparency, improved service delivery, innovation, and economic growth. Given the global coverage of the GODAN Network, our evaluation design aimed to strike a balance between depth and breadth. To gain depth of understanding, we aimed to dig deep into partners' and members' experiences of working with GODAN to strengthen the open data ecosystem, and to note their reflections on how this contributed to outcomes. To capture the breadth of activity, we aimed to document a diverse array of voices and experiences of changes in open data publishing and its use - including reflections on GODAN's role and contribution.

2.2 GODAN Theory of Change and Intervention Logic

GODAN Secretariat and GODAN Action share a theory of change and log frame that was developed in 2016. This was not revised during the period covered by the evaluation and is available online.⁴ A precursor to this version was the ToC developed by DFID as part of the business case for GODAN, which is the version included in the evaluation TOR. Essentially, the combined ToC focussed on GODAN Secretariat's high-level advocacy, to create a conducive policy environment, and GODAN Action's complementary role to support by building technical capacity and developing tools and

⁴ https://www.godan.info/sites/default/files/files/Godan_Theory_of_Change.pdf

resources that facilitate the publishing, access, and use of ODAN. Additionally, specific ToCs were also developed for the thematic focus areas of Weather (in year one of implementation), and Nutrition and Land (in year two) in order to define how GODAN Action outputs support specific outcomes in each area. These subject specific ToCs were requested but were not made available to the evaluation team. As part of the inception phase, the evaluation team combined all available ToCs as well as the log frame to reconstruct an initiative-wide theory of change that informs the evaluation design and identifies the key causal linkages that the evaluation would be explore. This reconstructed ToC, along with the evaluation approach, was validated and approved by the Evaluation Steering Group (ESG) at the inception review meeting.

2.2.1 Reconstructed Theory of Change

The published GODAN theory of change emphasises three clear pathways to impact: **convening**, **equipping**, and **empowering the open data ecosystem**. In addition, it targets three particular groups of stakeholders: data users, data publishers, and data enablers, with the objective of encouraging and supporting these different groups to make data more open and accessible. These three categories of stakeholders include a vast array of actors: from policymakers and private businesses, to NGOs, CSOs, and farmers’ organisations.

Figure 1 presents the ToC developed for the evaluation that highlights the causal linkages that are used to assess and understand the contribution of GODAN to the outcomes outlined in the log frame.

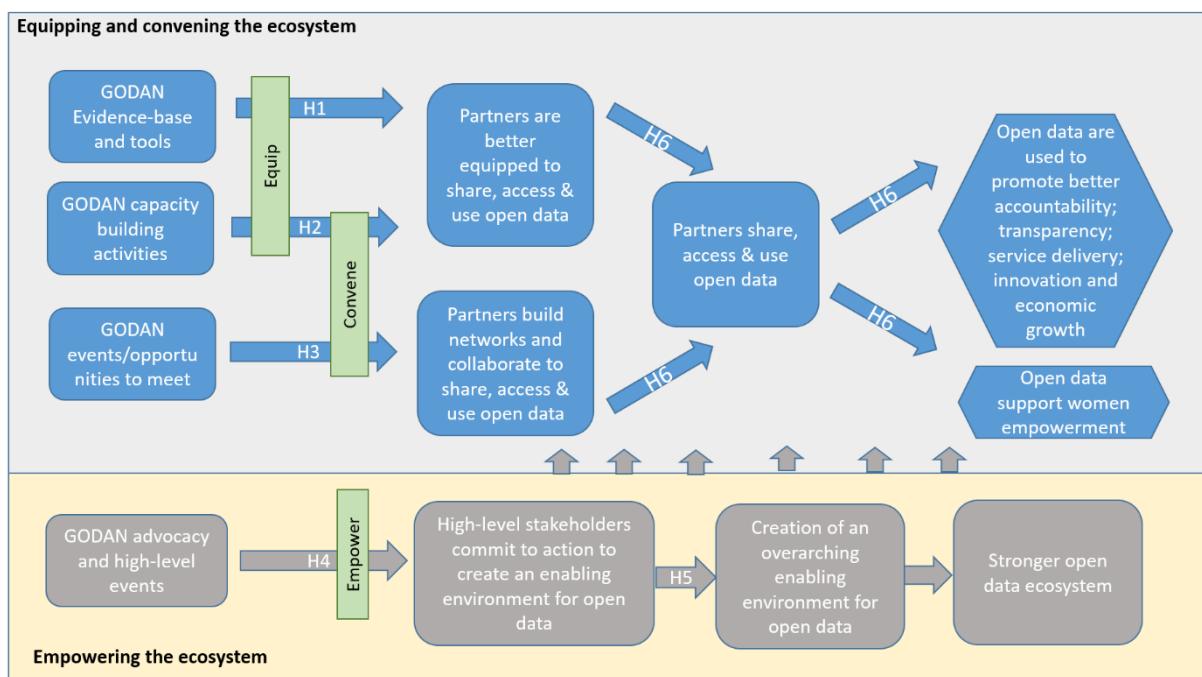


Figure 1: Reconstructed GODAN Theory of Change (Source: IDS Evaluation team)

2.2.2 Causal Hypotheses

Drawing from the principles of Contribution Analysis, the evaluation team identified six critical hypotheses that outline how different areas of GODAN’s work could have contributed to change. The team then identified a list of risks and assumptions for each of these pathways, which provide a framework for this analysis. The hypotheses, risks and assumptions are outlined in Table 1.

Hypotheses	Assumptions/Risks
<p>1. GODAN equipped its stakeholders to publish, access, and use open data for agriculture and nutrition by <u>providing an evidence base (e.g. case studies, stories, papers) and tools (e.g. improved data standards, evaluation methodologies)</u> for open data activities.</p>	<p>Evidence-base and tools are effectively communicated; are clear and accessible to - and perceived as useful by - partners; partners/stakeholders lack knowledge/tools on how to share, access, and use open data.</p> <p>Risks: Partners and stakeholders are not effectively reached with resources; they are too pre-occupied with other concerns to engage with the resources; hosted on numerous platforms so reach figures hard to aggregate. Partners and stakeholders misunderstand evidence base and tools and use it incorrectly (e.g. opening up sensitive private data).</p>
<p>2. GODAN equipped its stakeholders to use and publish open data for agriculture and nutrition by <u>building their capacity</u> to address bottlenecks of open data use.</p>	<p>Partners and stakeholders are aware of capacity building activities, can access them and perceive them as useful; lack of capacity is a barrier to sharing, accessing, and use of open data.</p> <p>Risks: Partners and stakeholders are not effectively reached with capacity building; they are too pre-occupied with other concerns to engage with the resources.</p>
<p>3. GODAN convened its partners and stakeholders by <u>creating space/opportunities/time to meet, collaborate and build networks</u> (e.g. in working groups, through the development of specific product, events, capacity building activities) to enable access, sharing and using of open data for agriculture and nutrition.</p>	<p>Partners and stakeholders have the time and capacity to make use of and sustain collaborative efforts for sharing and using open data; lack of trust in the quality of data does not pose a barrier to collaborating on sharing and using open data.</p> <p>Risks: Unbalanced power-relationships in networks threaten long-term sustainability.</p>
<p>4. GODAN's high-level events and advocacy <u>prompted high-level actors to take policy and political actions to enable and promote</u> sharing, publishing and using open data for agriculture and nutrition.</p>	<p>There are the political spaces and willingness to create an enabling environment for open data for agriculture and nutrition.</p> <p>Risks: Policy and political actions are not sustained or do not receive sufficient investment to deliver change.</p>
<p>5. The policy and political actions (e.g. public commitments) that were triggered by GODAN empowered the ecosystem by <u>creating an overarching enabling environment</u> for open data for agriculture and nutrition.</p>	<p>Policy and political actions towards creating an enabling environment for open data are clear, sufficiently specific, and perceived as binding by relevant actors; combined actions from GODAN Secretariat and GODAN Action contribute effectively to sustain the enabling environment.</p> <p>Risks: Barriers to the use of open data remain (e.g. lack of funds, data ownership concerns) and prevent the translation of actions into practices. Push-back of important actors in ecosystem as they do not want to lose their authority.</p>

<p>6. The various GODAN activities and resources contributed to an increased supply and use of open data for agriculture and nutrition to improve accountability, transparency, service delivery, innovation, and economic growth</p>	<p>Assumptions: unmet data needs are a limiting factor for accountability, service delivery etc.; there is capacity to communicate open data effectively to trigger actions; increased used of open data directly or indirectly benefits women.</p> <p>Risks: Increased supply and use of open data for agriculture and nutrition leads to unintended consequences which undermine stated aims (improve accountability, transparency, service delivery, innovation, and economic growth).</p>
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Table 1: Critical hypotheses, risks and assumptions

2.3 Methodology

The evaluation was carried out by a team of evaluators and researchers based at the Institute of Development Studies. A description of the roles and responsibilities of each team member can be found in Annexe 6.

The evaluation analysis drew evidence from three information sources: key informant interviews, a SenseMaker survey, and a literature review to test these hypotheses. These three data sources were initially processed separately and used to systematically interrogate the contribution hypotheses and explore underlying assumptions/risks/unintended consequences. The insights emerging from these data were then triangulated against one another and integrated into the analysis as evidence of GODAN's contribution to change in each area.

Our data collection and analysis was designed to enable triangulation of data from multiple sources including triangulation across data collection methods (e.g. across survey data and interview data), as well as triangulation within a specific method across persons (e.g. thematic coding of interview data). The detailed methodology is provided in Annexe 2. Data collection took place between January and March 2020.

The findings of this report were presented and discussed with stakeholders at DFID and GODAN during an online validation workshop in April 2020. Feedback, insights, and revisions were incorporated into the final version.

2.4 Evaluation Limitations

This section outlines the limitations of the methodology and the evaluation process:

Short evaluation timeline

The evaluation was conducted within a 12-week timeframe. The draft report was produced between January and March 2020, with an emphasis placed on GODAN performance rather than impact. This already tight timeline was exacerbated by the global Covid-19 crisis. The majority of data collection and interviews had been completed before the peak of the crisis but lockdown in the UK and the closure of schools had implications for the evaluation team during the analysis and write up phase. In response, DFID granted an extension for submission of the final report.

Breadth of GODAN mandate

Due to the breadth and scope of GODAN's work, it is not possible to claim that the 49 informants interviewed are a representative sample of all GODAN stakeholders. However, this sample aimed to capture a broad range of voices from a cross section of institutions, sectors, and countries. The breadth of the work conducted by GODAN has meant that the evaluation has also spread itself across

this vast portfolio of work in order to provide a complete picture across both GODAN Secretariat and GODAN Action.

Sample size and access to key informants

The evaluation was heavily dependent upon key informant contacts provided by GODAN, which has created positive bias in the information provided. The team have reached out to additional contacts in the ODAN space, including informants not directly involved with GODAN, in order to validate these findings and provide an external perspective. The team has also applied a snowball sampling strategy, asking informants to suggest other potential interviewees to triangulate findings as much as possible. Several respondents did not reply to interview requests or were not available in this period. Despite several attempts to reach out to key policy actors, it has not been possible to conduct any interviews with high-level ministerial staff.

SenseMaker survey

The SenseMaker survey was an experimental approach to try to capture much broader perspectives and feedback on stakeholders' experience of GODAN than would be possible through semi-structured interviews. The survey format would have been new to the vast majority of respondents and this has likely limited some potential responses. The survey was heavily promoted through Twitter and the capacity development D-group, with the majority of responses resulting from the latter group. The survey generated 735 clicks but only 60 responses, which is a disappointing response rate of 8%. Despite the low response rate, the survey had an impressive geographic reach across 28 countries, primarily in the global South. This innovative approach has both validated some of the findings from the interviews and generated further insights into how the cohort of intermediaries who have participated in GODAN capacity building activities have gone on to apply these skills in their contexts.

Framing of the evaluation questions

The Evaluation TOR combined performance and impact questions. This spread the focus of the evaluation across both of these objectives. In particular, EQ8 on equity and the beneficial impact of GODAN on women's decision-making, opportunities to benefit from paid work, and greater control over their income, has substantially expanded the breadth of the evaluation. Generating primary evidence of impacts at this level is beyond the scope of this evaluation. Insights on how open data has benefitted end users have been drawn from the literature review. However, this question has expanded the scope of the evaluation to reflect upon the downstream impacts of GODAN on women farmers, despite the fact that this is not specifically part of GODAN's ToC.

3. Evaluation Findings

3.1 Hypothesis 1

Hypothesis 1: GODAN equipped its stakeholders to publish, access, and use open data for agriculture and nutrition by providing an evidence base (e.g. case studies, stories, papers) and tools (e.g. improved data standards, evaluation methodologies) for open data activities.

3.1.1 GODAN Reports and Policy Papers

Both GODAN Secretariat and GODAN Action produced numerous resources to inform the evidence base and better equip and prepare stakeholders to publish, access, and use open data. Drawing from GODAN reporting, Annexe 5 provides a list of key outputs produced by both GODAN Action and

GODAN Secretariat. The GODAN Action work on evaluation methodologies and data standards are discussed later in this section. Some of the key policy papers generated by GODAN Secretariat are discussed under Hypothesis 4. The evaluation generated strong evidence that the significant number of 26 key outputs (see Annexe 5) produced by both the GODAN Secretariat and GODAN Action built an evidence base to better equip stakeholders to publish, access, and use open data. The various publications generated by both GODAN initiatives are hosted on numerous platforms making accurate download and reach figures hard to aggregate.

The outputs most frequently cited as useful for informant's work include: the Open Up Guides – particularly the Open Up Guide for Agriculture ('Agpack'), guidance around data standards, the Map of Standards, and impact stories. Key GODAN outputs have been circulated both within the GODAN network, among partners of network members, government ministries, and donor organisations. Evidence from across interviews provide testimonies of how these outputs and guidelines have helped to shape and move forward the discourse on open data in agriculture and nutrition.

Evaluation Question 5

Have the tools, stories, case studies, and papers collected and compiled by GODAN Secretariat and GODAN Action equipped key actors to strengthen the open agricultural and nutritional data ecosystem in developing countries? Are there any specific examples of innovations which can be directly or indirectly attributable to the work of GODAN Secretariat and/or GODAN Action?

Some of the research papers in the run up to GODAN summit on IP and farmers, data ownership, data rights and work on responsible data was both useful for GODAN and a real contribution to wider OD field.

(Interview 25)

SenseMaker survey respondents validate this finding, citing GODAN resources as being particularly useful in equipping them and supporting changes in open data use. 48% of survey respondents selected GODAN resources such as papers, impact evaluation methods, or standards and interoperability tools as most strongly influencing the change they described in their stories with regards to their access, use, and/or publication of open data.

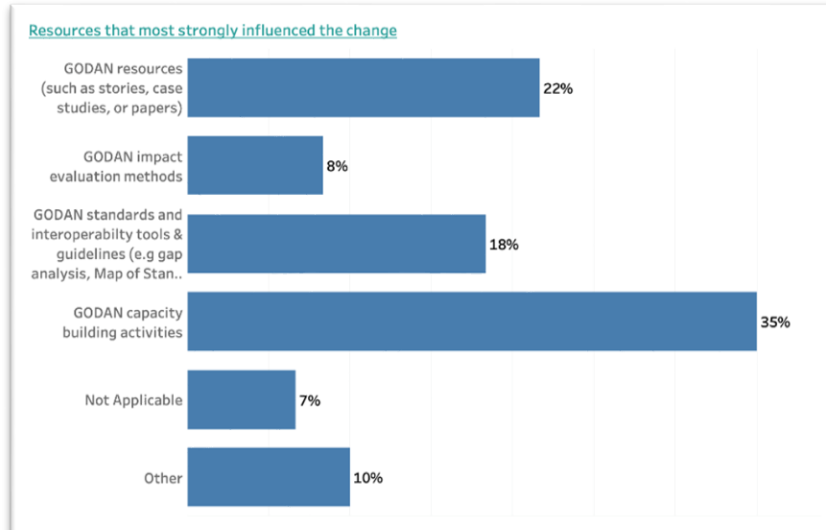


Figure 2 GODAN Resources cited as influential to a change in open data use

89% of respondents felt that GODAN capacity development resources they used were easily accessible. The stories of these respondents referred mostly to accessing the online courses held by GODAN Action. It can be assumed that the online courses provided GODAN reports and policy papers as part of the overall curriculum.

3.1.2 Website

The GODAN website⁵ emerged as a contentious issue across numerous interviewees with reports of issues with the website over the course of the GODAN initiative. The critiques focus on two key issues, the limited navigability and access to GODAN outputs, and the limited open data on GODAN itself in terms of its membership, finances, and other management information. This has been a challenge to verify as the website has been revised in the new phase of GODAN and website development is ongoing in response to a three-month comprehensive user experience (UX) analysis. However, the aforementioned issues have not been resolved and GODAN's current website does not meet the criteria for open data standards in providing data that is findable and machine-readable. For example, the website aims to increase the visibility of partners and support them to link up with each other's websites to access respective data. However, the list of GODAN members is presented as images of organisational links and supported by pop-up boxes. A full list of GODAN members is not available in a machine-readable format.

The website references GODAN work with IATI and Transparify but the links to relevant information are not live and no financial information is currently available on the website. The 'Tools and Resources' page does not presently contain any live links to the outputs and resources developed by either GODAN Secretariat or GODAN Action in the first phase, as discussed above. The GODAN Action navigation bar provides information on what GODAN Action delivered but does not link directly to the content. The exception to this is the link to the [MOOC](#), which can be accessed from the GODAN Action tab but not the tools and resources section. Other content can still be accessed using precise keywords search in Google, but there is no way to navigate to that content from the godan.info site. The evaluation team accessed GODAN's outputs via the [GODAN f1000 repository](#), but no link to this repository could be found on the current website.

⁵ www.godan.info

These observations, alongside the frustration at the continuous changes to the website throughout the course of the programme as expressed in interviews, suggest that the website is not performing particularly well in GODAN's quest to better equip stakeholders in accessing/using and publishing open data. To sum up, while the website has the potential to facilitate easy access to the GODAN evidence base and tools, our data suggest that this potential has been limited by the evolving design and functionality of the website.

3.1.3 Documentary series, impact stories and videos

The GODAN Secretariat produced various documentary videos and impact stories to promote the use of open data in agriculture and nutrition. The evidence on whether and how either the documentary series which GODAN produced, or the impact stories made available on the GODAN website, have been used is extremely limited. The videos were developed as tools for use in events and workshops to build awareness and political will. These were used as promotional examples of how open data can change agri/nutrition practices for the better and build expectations amongst stakeholders as to the possibilities and potential of open data, particularly in the areas where the films were made. As the videos were used as promotional tools in events and workshops, it is not possible to disaggregate how these videos equipped stakeholders. However, they were seen as a useful tool to raise awareness of open data and to motivate people to engage in this open data space. Beyond use at events, the range of web views on the documentary series varies between the most watched video, 'Open Farms' (approximately 11,150 views over the course of four years), to the least watched video, 'Open Skies', (1,375 views over a similar time period).⁶ This suggests that it is likely that these products have been used beyond GODAN's own purposes.

For the organisations that were featured, the videos provided a strong promotional opportunity and were said to have been extremely useful in increasing the visibility of small organisations and for positioning their work in the open data space. However, there is little evidence of follow up from GODAN to support and strengthen these initiatives beyond the video production. For example, Haller, the organisation featured in the 'Open Fields' documentary, were extremely positive of the benefits and exposure of producing the 'Open Fields' video. However, this had not led to stronger connections with other agri-app stakeholders in Kenya and was not linked to political conversations around the Nairobi Declaration. This suggests that, while this work did equip Haller to engage in the open data space, this opportunity could have been further cultivated. The Haller team are about to launch a revised farm app and were hugely enthusiastic about the potential to connect with the GODAN network in order to promote their new tool.

Overall, the evaluation findings suggest that the documentary series and videos were accessed and viewed. However, there is limited evidence for the type of audience that viewed these, and limited evidence for how these tools equipped the audience to use open data. The evaluation did not identify evidence of how the impact stories have been used.

⁶ https://www.youtube.com/playlist?list=PLwhYI2qtSJ3POpyI_HtqCmcwjPcNJH84s [accessed on 15 May 2020]

3.1.4 Impact Evaluation Methodologies

One of GODAN Action's focus areas of work was on impact evaluation. This included the development of a methodological framework on how to evaluate the impact of open data in nutrition and agriculture.

GODAN's '[Guidelines for analysing pathways to impact](#)' was developed with the purpose of

promoting a stronger approach to impact evaluation

that would contribute to building an evidence base of the benefits of open data. The approach emphasises the importance of building evaluation design into open data initiatives. Such an approach embeds working with impact chains and integrating a focus on technology that also build awareness of the social and political economy aspects of introducing open data. The methodology was developed around a series of case studies linked to the three thematic topics of GODAN Action: land, weather and nutrition. These produced eight [pathways to impact documents](#) as test cases which were used to validate and improve the framework.

The evaluation identified evidence of the application of this approach to an impact evaluation in Nigeria, as well as testimony that this work led to the stakeholder feeling better equipped to evaluate open data.

GODAN supported me in impact evaluation so it opens new doors for a new partnership, meeting new people and networks and then most of all, the knowledge, the functional knowledge that I got.

(Interview 19)

This impact evaluation work has also been carried forward by the Land Portal who have applied the approach to identifying impacts of open data to establish their theory of change for the use of land data. Beyond these testimonies there is little evidence of how the impact methodologies have been applied or utilised to help stakeholders to think about how they could evaluate their open data initiatives in order to better reflect on their open data use, effectiveness, and challenges. The level of awareness of interviewees of this work was very low and it did not feature at all in the SenseMaker responses. This can partly be explained by two factors. Firstly, the framework was released quite late on in the process and embedding this evaluation approach from the beginning of new initiatives creates an additional time lag in generating evidence of both the value of the impact evaluation guidelines and of the open data initiatives it evaluates. Secondly, there was also frustration at the limited funding available to deliver more substantive work on impact assessment, as well as frustration at the lack of flexibility within the GODAN budget to redirect funds to support this work.

In terms of equipping stakeholders to publish, access, and use open data by building an evidence base, the impact evaluation work of GODAN Action feels foundational in terms of providing an integral view of the different dimensions and processes to consider in the evaluation of open data initiatives. However, this evidence base has not yet been established to fully understand the different types of impacts of ODAN and to demonstrate the contribution of GODAN in this sphere. Moving forward, there is further potential to deliver some substantive impact evaluation work of some flagship projects and initiatives. This can build the evidence base and make data available on the potential political, social, and economic benefits of ODAN which can be used to mobilise resources and continue to build momentum to empower the OD ecosystem.

Evaluation Question 7

EQ7: *Have the impact evaluations and impact methodology developed by GODAN Action influenced key actors to change the way they use and publish open data?*

3.1.5 Data Standards

GODAN Action's work on data standards, aiming to map data standards and to explore issues of interoperability across different agricultural ontologies, was delivered by a collaboration between Agroknow and the ODI, with FAO and GFAR in an executive role. This was an extremely broad and technical area of work that built upon pre-existing work of the FAO through Agrovoc and VEST. The question of standardisation and interoperability of data is a critical one, as this is required to promote open data publishing, access, and use. The evidence suggests that GODAN Action raised awareness of the importance of standardisation.

Evaluation Question 1

To what extent has GODAN improved the standards and interoperability for open data for agriculture and nutrition?

The work was structured around three core themes of land, weather, and nutrition and made a series of recommendations to address gaps. This resulted in the production of a series of [guideline documents](#) and content that was shared widely through capacity building activities and the MOOC. Land data was cited as being a particularly successful theme, with partner organisations able to use products developed by GODAN Action in other projects and partnerships (Interview 24). However, there was also a strong political dimension to this topic. Nutrition lagged behind the more agricultural focussed topics, described by one source as 'a side note'. There is much less evidence of GODAN work on nutrition than in the other areas.

GODAN Action didn't have a strong nutrition partner. The scale of data issues around agriculture was far greater than nutrition at that stage.
(Interview 10)

The GODAN Action partnership created a space for the FAO, a long-term advocate for data standards and ontologies, to work with the ODI and the Land Portal to support stronger alignment and build capacity to expand these organisations' work on open data standards. For example, the Open Data Initiative reflected that a later project on open standards⁷ :

[GODAN] contributed to the way in which we now think around open standards for data and a broader project about creating guidance around how to create an open standards was definitely informed by work done on standards map. In the way we put together that guidance, in particular drawing out what standards were being evaluated against in the map as what people need to do when creating standards.
(Interview 3)

The Land Portal also reported that this work supported them to move their open data agenda forward:

It is not easy to convince donors to invest in open data. We have been working on improving the standards, infrastructure of land data. This work is difficult to fund. GODAN helped, it was very important, it allowed us to invest in data infrastructure and capacity building, standards.
(Interview 24)

⁷ standards.odi.org

GODAN Action monitoring systems tracked the number of users and page views of the standards and reported 8,507 users and 27,091 page views in total by October 2019. The reach of this work has also been extended through the MOOC and the many in-country trainings that have been delivered by participants of GODAN training events. Based on our interviews, this work has undoubtedly raised awareness of the value of data standards to support open data publishing, access, and use. However, some interviewees have questioned the extent to which this work has equipped stakeholders to engage with this highly technical subject area to support the use of open data.

It was clear from various interactions with open data, ag, nutrition community that lack of interoperability was a problem. What impact addressing that problem is, is not well known. (Interview 20)

3.1.6 Reflections on Hypothesis 1

There is mixed evidence that GODAN has helped to better equip partners and stakeholders to publish, access, and use ODAN by providing an evidence base and tools for open data activities. GODAN has increased the supply and availability of ODAN articles, case studies, and stories, as well as guidelines on standards and evaluation methodologies. Downloads of these articles, case studies, and tools provides quantitative evidence of access to these resources. Our qualitative data suggests that GODAN evidence and tools are valued by GODAN's high-level stakeholders⁸ and intermediary organisations in ways that equipped them to publish, access, and use ODAN. However, not all GODAN outputs were perceived as equally relevant and useful. Interviewees did not provide substantive evidence on the usefulness of the videos and impact stories, the website, or the impact evaluation methodology.

The key assumption underpinning Hypothesis 1 is that GODAN evidence and tools are accessible to relevant stakeholders. GODAN stakeholders range from UN agencies, governments, donor and research organisations, and intermediary organisations to CSOs and farmers' organisations who were either active in advocating for changes in open data policies, or motivated to build their technical capacities. Data on audiences and uptake is not available so it is not possible to confirm exactly who accessed GODAN materials and how these were used. It is also important to note that 'equipping' stakeholders was part of an integrated strategy. GODAN Secretariat's high-level policy papers and impact videos and stories were used as part of an outreach strategy in support of high-level events, as discussed in Hypothesis 3 and 4 below. Likewise, GODAN Action's work on impact evaluation and data standards were also designed to equip stakeholders as part of a broader strategy that includes capacity building, as discussed under Hypothesis 2.

Hypothesis 1 also included the risk that not all partners and stakeholders are effectively equipped. The evidence suggests that there have been some challenges regarding accessibility. For example, the ease of use of the website, which is an important source for GODAN outputs, was described as problematic despite ongoing efforts to improve the user experience. It is also clear that GODAN was more effective in equipping some stakeholders when compared to others, with the majority of GODAN materials produced in English with limited translation capacity. GODAN's categorisation of stakeholders as open data users, publishers or enablers masks the broad range of stakeholders in the

⁸ Here the term high-capacity stakeholders is used to refer to GODAN stakeholders whose starting point is relatively advantageous (English-speaking graduates with technical skills who are owners of digital devices and who have good connectivity access) and 'low capacity stakeholders' are those who are underprivileged by comparison (people with disabilities, speakers of indigenous languages, and print illiterate rural women).

open data ecosystem which includes many groups with lower levels of accessibility, either due to limited access to technology, language barriers, literacy levels or visual impairments. While it was not GODAN's intention to directly reach farmers groups, the theory of change includes an implicit assumption that intermediary organisations use these resources to promote the benefits of open data for end users. However, there is also a risk that open data leaves these groups further behind. Moving forward, it would be useful to articulate how GODAN's work 'equips' more disadvantaged groups even if this outcome is indirect.

3.2 Hypothesis 2

Hypothesis 2: *GODAN equipped its stakeholders to publish, access, and use open data for agriculture and nutrition by building their capacity to address bottlenecks of open data use.*

3.2.1 Capacity development activities

Capacity development work was conducted by both GODAN Secretariat and GODAN Action, as well as in collaboration, for example, with the RDA and IGAD capacity development working group. GODAN's capacity development offer included a wide array of online and in-person trainings courses, seminars, and workshops on the access, use, and publication of

open data. The evaluation has generated substantial evidence that highlights GODAN's success in delivering capacity development activities and in effectively combining both online and face-to-face training spaces to equip stakeholders to use and publish open data. In total, GODAN reported reaching 8,620 people by October 2019 through a combination of [online capacity building activities courses and webinars](#), face to face trainings, seminars, and workshops. A significant majority of this number can be attributed to the webinars and online courses (GODAN M&E Dashboard). One of the most popular courses was the '[Open Data Management in Agriculture and Nutrition Online Course](#)' delivered five times between November 2017 and November 2018, reaching over 5,000 people globally before being made available for unrestricted use on GitHub. The evaluation has not disaggregated between trainings provided by GODAN Secretariat and GODAN Action.

There is strong evidence that capacity building activities equipped stakeholders in multiple ways to address bottlenecks of access, use, and publication of open data. 80% of SenseMaker respondents highlighted capacity building and training as GODAN's key strength. Of these respondents, 75% indicated that the content of the story they provided in the survey was attributed to GODAN training courses (either online or face to face).

*Participating in GODAN's course on open data in agriculture helped me define respective (open) data management guidelines for our organisation.
(SenseMaker NarrID: 37)*

Evaluation Question 6

Have the capacity building activities of GODAN changed the way key actors use and publish open data for agriculture and nutrition?

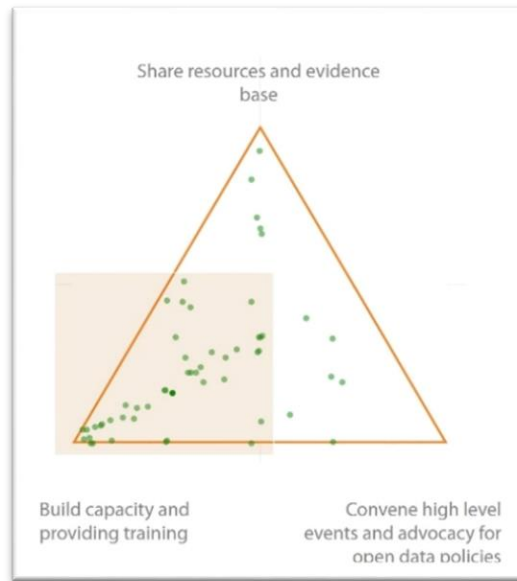


Figure 3: Responses that identify GODAN's strength in building capacity and providing training

GODAN delivered four online courses between November 2017 and October 2018 with a total of 3,110 participants from more than 115 countries, with approximately 30% representation of women. The numbers reached through online courses suggests firstly, that a strong demand exists for training on what open data is and how to use it, and secondly, that GODAN was effective in responding to this demand and successfully reached a broad range of stakeholders, both in terms of geography and stakeholder groups.

Face to face meetings and trainings were another key capacity development tool for GODAN that supported various objectives. These included building awareness and equipping OD champions; and strengthening capacity and establishing networks. The face to face trainings were more selective and primarily focussed on mid to high-level employees who had the capacity to influence key decisions within their organisations to either impede or actively promote open data use.

GODAN has had a lot of influence on the way we use and publish data. We've gotten a lot of experience from GODAN. Especially on data standards and all that comes with it. In Ghana, when we begin to educate most of the government agencies on how to publish data that used to be a very big problem in the country you can just imagine you go to Ministry of Agriculture, they have a lot of data most are in hard copy, no electronic versions, that capacity is not there. But now... most of the data that we use within the country are all kind of an electronic version (excel for example) that one can easily use to do something. So, I would say that through all the capacity building has had an impact on the way we use data and how we should produce the data and how we should publish on a platform.

(Interview 1)

The face to face trainings which were most cited in the interviews include the Kenya Ministerial Capacity Development session in 2016, the CAADP journalists Africa workshop in 2016, and the South Africa Data Repositories workshop in 2018. In addition to building stakeholders' capacity, face to face trainings also brought relevant stakeholders together and facilitated the generation of effective partnerships for open data. For example, in South Africa, workshop attendees were able to develop a partnership with Land Portal as a result. Other knock-on effects of the face to face training courses

included the formation of alumni groups and Communities of Practice which were supported by CTA and continued to strengthen these relationships through ongoing discussions on emerging issues and questions (Interview 10).

Whilst some of the face to face trainings targeted decision makers, GODAN also made significant efforts to increase the accessibility of training materials by supporting training participants to continue to roll out and recommend training materials for their own activities and actions. For example, a workshop in Kenya conducted with the Kenyan Agricultural Research and Livestock Research Organisation, KALRO, led to participants utilising the training curriculum to deliver their own training to partners, including Kenyan farmers (Interview 17). This is clear evidence of how GODAN equipped stakeholders to address the bottlenecks of open data use. GODAN Action also awarded eight mini-grants⁹ to training partners in 2018 to build capacity of open data users and intermediaries in the areas of weather, land, and nutrition. Interviews reflected on the importance of this work at the local level which targeted local contexts, needs, and actors such as farmers, entrepreneurs, and practitioners (Interview 40). This provided evidence of how GODAN effectively equipped stakeholders to use and publish open data and prepared them to overcome bottlenecks and address specific operational challenges that might emerge along the way.

There were also barriers to extending the reach and accessibility of capacity building activities with the majority of training materials only made available in English. Interviewees and GODAN Partners all expressed a strong desire to make more capacity building activities and resources available in other languages with active participation of key champions to support this:

GODAN have online training on open data and agriculture so a lot of members of our network are participating in this training and we have also contributed to translate to French for non-English speakers...training materials is one of the most significant achievements because it's really useful for our community members... the most used tools of GODAN is the training materials.

(Interview 15)

Translation requires a budget investment and one GODAN partner highlighted the high cost and challenge of maintaining various language versions of training content which needs to be continuously updated to keep the content current. GODAN operated with an incredibly small team and had limited capacity to take on this translation themselves.

The new phase the GODAN Secretariat is supporting is a cadre of local champions with a vision of building a sustainable open data ecosystem. These champions appear to have a dual role as open data advocates as well as responsibility for continuing to roll out GODAN's capacity building work in their countries and regions. This assumes a dual role with both a political dimension, to promote open data, and a technical and pedagogical dimension to build capacity. These champions are tasked with stimulating the demand for the use of open data and building the capacity of intermediary organisations to support agricultural extension services and farmers' groups in order to address production and marketing challenges. The capacity building materials developed in Phase 1 continue to be key to this strategy, but more could be done to promote and signpost the training materials and MOOC on the website, as discussed above.

⁹ <https://www.godan.info/news/godan-action-announces-training-mini-grant-winners>

3.2.2 Webinars

GODAN Webinars have been another key feature of GODAN's work to build capacity around open data. These regular online events had a strong reach and high viewer numbers. According to internal monitoring data, a total of 1,109 people attended 21 webinars, an average of about 53 people per webinar. However, there is limited information on the profile of participants or the influence of how the webinars might have helped to better equip viewers to deal with the bottlenecks of open data use. Webinars did not feature in the evidence generated either by interviews or the SenseMaker survey.

3.2.3 Reflections on Hypothesis 2

There is compelling evidence that GODAN was successful in equipping partners and stakeholders to use and publish open data for agriculture and nutrition by building their capacity to address bottlenecks of open data use. GODAN was particularly successful in its use of online courses and webinars, face to face trainings, seminars, and workshops which were used to increase awareness and abilities in ways that contributed to the removal of bottlenecks to building the capacity of stakeholders to access, publish, and use ODAN. There is quantitative evidence that 8,620 individuals participated in GODAN training. This is supported by qualitative evidence from surveys and interviews that participants valued GODAN capacity building and that GODAN training was useful in understanding how to publish, access, and use open data.

One of the key assumptions underpinning Hypothesis 2 is that the content of the capacity building activities is perceived as useful and relevant by the stakeholders. The considerable turn out for the online training suggests that this assumption held true. Further evidence for this is provided by the finding that participants of capacity building activities frequently re-used the training material to develop their own contextualised trainings.

Hypothesis 2 included the risks that partners and stakeholders: (a) lack awareness of the usefulness of GODAN capacity building; or (b) experience barriers to accessing, sharing, or using ODAN. GODAN's stakeholder range from very well resourced multi-national organisations and high-level intermediaries to relatively resource poor, low-level stakeholders. GODAN was more effective in reaching some stakeholders than others. Only 30% of those participating in training were women whilst 70% were men. The goal remains to reduce this gap further. Trainings were primarily delivered in English although some French and Swahili content has been developed. Online training has huge potential to expand the reach of training materials, whilst acknowledging the limitation of accessibility for groups with low internet access, speakers of other languages, visual impairments, or with print illiteracies.

3.3 Hypothesis 3

Hypothesis 3: *GODAN convened its partners and stakeholders by creating space/opportunities/time to meet, collaborate and build networks (e.g. in working groups, through the development of specific product, events, capacity building activities) to enable access, sharing and using of open data for agriculture and nutrition.*

3.3.1 Building the GODAN Network

GODAN successfully established a broad network of partners and quickly surpassed all expectations around the numbers of network members, reaching 1,047 members at the time of writing. Members of the network represent a broad section of public, private, academic, and civil society organisations with truly global coverage.

Evaluation Question 2

Are key actors collaborating and committing to actions that will lead to a strengthening of the open agricultural and nutritional data ecosystem in developing countries as a result of GODAN?

The key benefits of network membership that were cited by stakeholders included the defining of a specific space that connects actors across the agriculture and nutrition sectors with those engaged in open data, directing attention to - and creating momentum around - that nexus. For example:

GODAN more generally gave us the collaborative structure to connect with people, but also a way to think differently... GODAN has played a big part in pulling a variety of organisations such as NGOs, academic, private players and government departments into broader loose collaboration. I think it's been a useful, powerful convening power by marking out a space and saying we are going to talk about open data for agriculture and nutrition makes people realise that there is something to be talked about.

(Interview 29)

GODAN membership intentionally had a low threshold and low barriers to entry to encourage potential members to make public statements of their support for open data. This can be compared to the Open Government Partnership (OGP) which was an equivalent initiative, in which members make a series of commitments of actions to be taken over the next 12 months to create some practical focus to the network. Becoming a member of the GODAN network did not necessarily commit members to actions, but instead encouraged members to participate in conversations and facilitated a series of spaces such as working groups and hackathons to support members to identify opportunities to coordinate around areas of common interest.

From its inception, the GODAN Secretariat focussed on a strategy of building both an evidence base and a network of global stakeholders with an interest in ODAN. The Secretariat then brought these two elements together at the GODAN Summit in New York in 2016 which gave GODAN huge momentum, profile, credibility, and political capital. The summit, discussed in more detail in section 3.4.1, represented a huge leap forward and undoubtedly laid the foundations for some of GODAN's subsequent achievements, such as the Nairobi Declaration (discussed in section 3.5.1). However, key informants have also reflected on the subsequent challenge of maintaining that momentum and operationalising the network given GODAN's limited size and capacity.

That seems a big question as to how GODAN maintains momentum and how it maintains network overtime. I wasn't engaged as a member of the network. How much have they capitalized on having that network there?
(Interview 25)

The SenseMaker survey indicated that 42% of respondents reported that the change around open data use described in their story was triggered by work with one or more members of GODAN. However, when these stories were analysed, it was clear that respondents interpreted taking online courses as working in collaboration with other GODAN network members. The absence of stories of GODAN members working in collaboration supports the evidence provided through interviews.

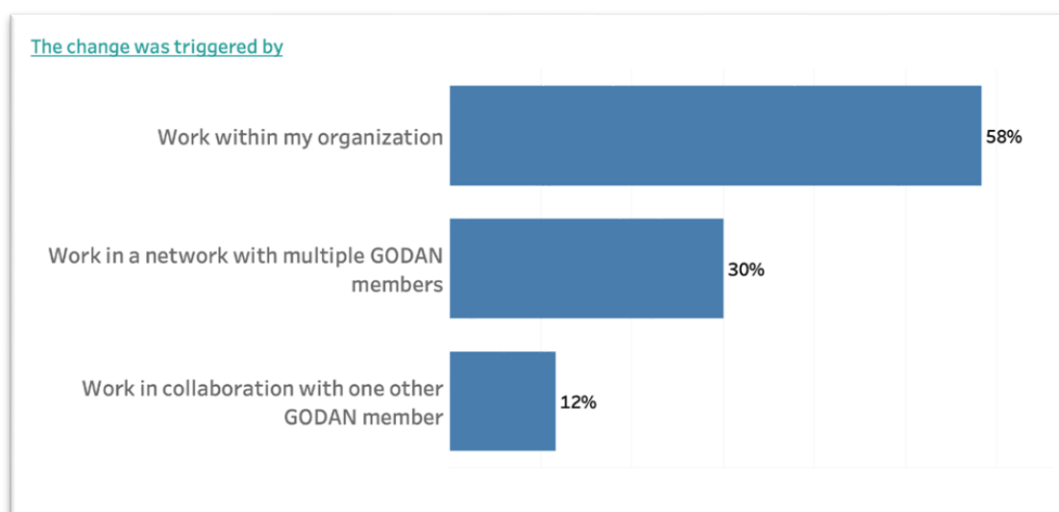


Figure 4. Triggers that prompted respondents' change in open data use

3.3.2 Working Groups

One of the key GODAN mechanisms to bring network members together, build their capacity, and encourage collaborations to increase members' ability to access, share, and use open data for agriculture and nutrition, was through working groups. These groups were created by network members who identified a shared interest or question and aimed to be flexible and agile communities of practice created to respond to a specific demand, challenge, or opportunity (Interview 31).

The working groups had mixed results with some successful examples identified. For example, the Capacity Development Working Group, which was unique in that it was overseen by a GODAN staff member and had an associated D-Group with over 4,000 members, produced a Capacity Building Action Plan¹⁰ and a series of webinars¹¹.

The Data Rights and Responsible Data working group produced a working paper to review codes of conduct, voluntary guidelines and principles relevant for farm data sharing¹². They also conducted a workshop on legal and policy aspects of open data in agriculture¹³. An interactive tool is still in development to share this information in an accessible and instructive way which enables site visitors – without registering or providing personal details – to select, build and print/share their own Code of

¹⁰ <https://bit.ly/2xe7ryn>

¹¹ <https://www.godan.info/pages/webinars>

¹² <https://bit.ly/35aqhTl>

¹³ <https://bit.ly/3blWpA9>

Conduct. Three GODAN working groups collaborated to produce working papers¹⁴ that were launched at the GODAN Summit. The Summit also saw the launch of new working groups on soil, rice, capacity building, and data infrastructures. Others, on precision agriculture and nutrition, were concluded at the Summit. The criteria for disbanding working groups were not clear, other than that they had delivered their mandate. This seems questionable for the nutrition group, given the limited emphasis of GODAN on nutrition.

Other working groups, which were cited in interviews as having been active, include the Agricultural Data Interest Group (IGAD) for which GODAN provided financial, logistical, and capacity support, which included the funding of the participation of Southern researchers. Also mentioned were the Nutrition Data Gap working group, Global Agricultural Concept Scheme (GACS) working group, and the Earth observation working group (Interviews 10, 43, 31, 16). However, there was wide variation in the productivity of the working groups; *'Some were almost aspirational others were much more effective'* (Interview 20).

Working group governance was intentionally ad-hoc, with the expectation that the work would be informal and self-managed, operating in response to a specific demand and disbanding when that need had been met. The working groups were viewed as the space *'where the work gets done'* (Interview 10) and where opportunities were created for people to interact and to promote innovation and coordination on open data. However, many informants interviewed were completely unaware of this element of the GODAN network. It has been challenging to reconstruct working group activities and outputs with no complete list of all working groups or members available. An indication of the broad range of working groups is provided in Box 2, compiled from the GODAN website, although there are no direct links to these groups or any outputs on the current website. GODAN undoubtedly had a role in convening and connecting the members of working groups and it is clear that a small Secretariat did not have the capacity to coordinate across the vast range of topics that emerged. However, there is also a question of whether more could have been done to monitor the collaborative initiatives that emerged under this mantle to identify areas or opportunities where further investment and support from GODAN could have added value or created a whole that was more than the sum of its parts.

- Sub-group on data codes of conduct
- Data rights and responsible data working group
- Publication and alignment of authoritative vocabularies for food working group
- SDG2 Accountability framework working group
- Data ecosystem working group
- Agriculture open data package working group
- Nutrition data gap working group
- Kenya Data Integration working group
- Data Infrastructure working group
- Soil Data working group
- Capacity Development working group

Box 2: List of GODAN working groups

¹⁴ [A Global Data Ecosystem for Agriculture and Food; Ownership of Open Data: Governance Options for Agriculture and Nutrition; Responsible Data in Agriculture](#)

3.3.3 Hackathons

GODAN has organised a series of hackathons around the world, which have been received positively by participants and provided an important mechanism for convening actors. However, a complete list of these hackathons is not easily accessible, nor is any information on the number of new products or services which were developed as a result of these hackathons.

The first GODAN Hackathon took place during the GODAN Summit and involved 34 participants with partners Thought for Food Foundation (TFF) and Presidents Unite to Solve Hunger (PUSH) who provided a practical demonstration of the energy and innovative potential of young innovators, students and entrepreneurs to develop products and services and expand their skills. Eight teams competed over two days to win an opportunity to participate in the next phases of the GODAN Open Data Challenge. This event generated a number of new platforms. For example, winners 'FarmTrade' (1st place) aimed to create and sustain an online marketplace for biofortified crops, enabling a marketplace based on nutritional quality and not just yield. ContemPLATE promoted transparency and social responsibility through open data from USDA, FAO, and WFP data sets. 'FarmConnect' aimed to provide an ICT solution to connect agronomists and agricultural experts with farmers to improve, facilitate, and manage farming, in addition to a platform. No evidence of the sustainability of these applications is available.

One example cited was the GODAN local farming challenge held in 2017 as part of the NASA World Wind Europa Challenge. The event aimed to bring together researchers and students to find solutions for local farming in growing cities, using open agriculture and nutrition data. The first prize was won by high school students and NASA interns from US who created Agrosphere, an educational web application that visualizes the effects of climate change on agriculture.¹⁵ This initiative was cited as an example of the power of bringing open data actors together across communities.

Hackathons have also been held in Nigeria¹⁶ which focussed on collecting data and supporting open map communities, bringing people together to document and generate data. As well as in Ghana in collaboration with the Africa Geospatial and Internet conference held in 2019.

They launched a hackathon, intended for 1 week, but to their surprise, there was a very high response... and in two days the task was completed! There is a lot of enthusiasm and commitment to contribute to SDG2, Food security. So, it is a very powerful entry point.
(Interview 39)

Another was planned in Kampala in May 2020 to bring together a number of GODAN network members. This was due to have a stronger focus than previous hackathons on supporting Farmers use of open data, with specific focus on codes of conduct and privacy.

The focus is more on Ugandan farmers to provide them with tools and guidance how they can better negotiate more around their rights around the risks and benefits around data.
(Interview 31)

Undoubtedly hackathons have been a popular mechanism for bringing GODAN members together, but there is limited evidence of how GODAN has provided the follow up and support provided that

¹⁵ <https://worldwind.arc.nasa.gov/agrosphere/about.html>

¹⁶ <https://www.plan4all.eu/nairobi-inspire-hackathon-2019/>

could nurture these relationships and support potential products and services from these collaborations.

The SenseMaker survey supports the assertion that hackathons have not made a lasting impression. Only 7% of respondents selected hackathons as having influenced the change in open data use described in the story they provided in the survey.

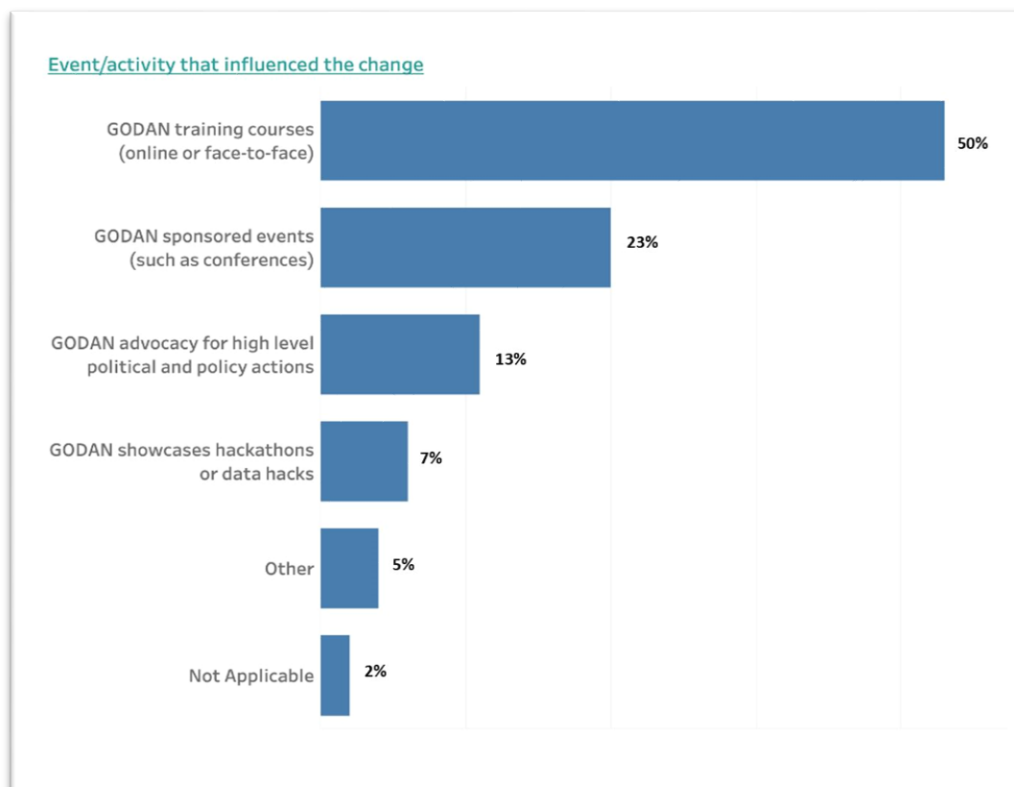


Figure 5 Events or activities that influenced a change in respondents' open data use

3.3.4 Local Champions

GODAN's strategy of identifying and supporting 'local champions' to collaborate has been a cornerstone of expanding GODAN's global reach. Embedding its messages within national discourse and continuing to empower the ecosystem by strengthening capacity, through technical trainings and online courses, is the key to GODAN sustainability. The criteria for identifying, selecting, and supporting local champions is not clear and no documents or terms of reference for this role have been made available to the evaluation. From interviews, it appears that this varies from support from GODAN to assist network members to present papers at international conferences or attend special open data events, to a role that assumes delivering both political advocacy and technical support.

The willingness to act as a local champion was, in several cases, catalysed by GODAN's role in making existing actors operating in the open data or agricultural space, realise the importance and potential of using open data for agriculture and nutrition. Several interviewees (Interviews 39, 36) credited GODAN with providing them with inspiring moments that made them see their work from a new perspective and motivated them to be willing to extend GODAN's approach in their countries. This importance is both intrinsic and instrumental. One interviewee, who had extensive experience in open data for transparency and accountability, realised that there is much less resistance from

power-holders to agree on the need to leverage the potential of open data for fields like nutrition and agriculture, as compared with other fields more directly linked to corruption and governance. Thus, ODAN offers a new entry point for gradual change; engaging with agricultural open data helps to opens minds within governments, creates personal and institutional capacities, and shifts attitudes.

Meeting GODAN in Tanzania and discovering the tremendous potential for using open data for agriculture... It inspired me to be involved in a global network movement that we are building right now – CSAYN Climate Smart Agriculture Youth Network¹⁷ - where I am the chair. This is the great thing that GODAN brought to me, and even GODAN doesn't know this.

(Interview 36)

Another informant who had worked in open data for disaster response indicated that expanding the scope of community engagement to include food security could attract much more interest and contributions from the general public. He explained how GODAN had provided an enabling background to mobilise change which had created awareness and interest and 'switched hearts and minds' in the potential of data to drive change towards SDG2.

Previously we just looked at Disaster Response, and other SDGs, but thanks of our contact to GODAN, we realised how an expanded scope of our community engagement to include SDG2 Food Security in Nigeria was important. This change is to be credited to GODAN.

(Interview 39)

Another reflection emerging from the interviews is that demand exists for GODAN to establish a series of regional hubs in response to the lack of convening power, specifically in Africa, to identify, open, and combine different data sources.

So, we had the first Open data for Africa in Tanzania, and then the second one took place in Accra, Ghana. However, we have not been able to mainstream most of this activity because we don't have a kind of west Africa hub where we share and look at our peculiarity to treat issues around open data for agriculture and nutrition. Yes, having the hub will be able to stimulate more discussions and sharing of best practices and bring in the African perspective.

(Interview 19)

It is important to reflect again on the small size of the GODAN Secretariat, which has reduced further in the second phase and no longer has the GODAN Action partnership in a supporting role. This creates questions about how, having built awareness, GODAN can manage demand and expansion to further areas of the agricultural data field. This brings the analysis back to the strength of the network and the critical role of facilitating hubs that bring together players at the regional, sectoral, and thematic fields in a sustained way that expands the emphasis from supply side, political will and technical capacity, to demand side and engaging with users' needs and developing the data services that can meet them.

3.3.5 Balancing breadth and depth in the expansion of the GODAN network

At the heart of GODAN and its strategy to build a network there are two competing pathways to impact which can be simply summarised as breadth vs depth. This in many ways can be traced to the perspectives and objectives of the two key funding agencies, USAID and DFID. Whilst coordination

¹⁷ <http://csayn.org/>

between USAID and DFID worked effectively, as discussed in more detail in Section 4 on Governance, there were some differences in what they hoped to achieve from GODAN. For USAID:

GODAN was an innovative outside of the box approach, there are no other advocacy initiatives of this nature; policy leadership knew at the beginning it was not a development project. Was highly successful and needs to be evaluated as a model in and of itself - we can't find anything that is close enough to compare it to. Speaks to its uniqueness and the evaluation has to take into consideration the fact that it is unique. It is the only Global Open Data for Agriculture and Nutrition initiative that has brought actors together under a common purpose.

(Interview 21)

Whilst for DFID there was an ongoing desire to see stronger development outcomes, pro poor, innovations, benefits and gender dimensions.

You've managed to build this network; it is still important to keep growing it but it's more important now to translate that success into something that is more concretely development impact. Rather than trying to get breadth, can we have a bit more focus on the depth in terms of what does that mean in practice. What are members doing to open up data or make use of open data.

(Interview 28)

From the perspective of some network members, more could have been done to build a stronger community. Whilst on the one hand GODAN membership '*gave us a validation of our work by being part of something bigger*' there was also a sense that '*GODAN missed an opportunity to build collaboration so that things are not replicated*' (Interview 48).

One of the central challenges is the fact that the scope of ODAN is itself incredibly broad. The Secretariat describes its focus as food systems, working at different levels which has created challenges in clearly articulating the impacts and added value. To address this breadth, GODAN Action decided to focus explicitly on three areas of land, weather, and nutrition. There was an initial view to rotate these topics on an annual basis, but this plan was aborted upon realisation that 12 months was insufficient time to make substantive progress, as even these topics are incredibly extensive. Moving forward into the second phase there is a stronger emphasis on supporting more targeted and contextualised in-country conversations led by local champions. However, this strategy is also likely to face the challenge of balancing breadth and depth within GODAN's mandate. There is an expectation that these champions will be able to act as a bridge to bring together the political and technical elements of ODAN, which makes it essential that GODAN has a clear strategy to ensure that these champions have sufficient resources and technical backstopping to deliver against what continues to be a very broad remit.

Whilst GODAN unquestionably created spaces and opportunities for members to meet and collaborate to enable access, with sharing and use of ODAN succeeding in putting ODAN onto people's agenda, there could have been stronger systematic communication between network members to consolidate the connections created and the momentum established.

3.3.6 Reflections on Hypothesis 3

Based on the evidence presented, this hypothesis partially holds true. On the one hand, GODAN was successful in convening its partners and stakeholders by creating numerous spaces and opportunities

to collaborate and build networks that enable access, sharing, and use of ODAN. GODAN has created an impressive breadth of network members, which far exceeds its original targets and successfully built awareness of the potential of Open Data for Agriculture and Nutrition in high-level government, multi-lateral institutions and research institutes. In addition to putting ODAN on the map with these organisations, GODAN has played a lead role in convening and nurturing a global network of high-level and intermediary organisations in events that have enhanced the awareness and abilities of participants about ODAN. However, the quality of these networks and their ability to facilitate meaningful access, use and publication of open data was mixed, as evidenced by the differential performance across working groups and a sense from some members that more could have been done to consolidate the network.

Hypothesis 3 listed as risks the limited capacity of stakeholders to make use of - and sustain - collaborative efforts and the potential for unbalanced power relations in the network to threaten long-term sustainability. The evaluation has uncovered questions about whether GODAN's success in convening a breadth of stakeholders might have come at the expense of depth of engagement, with a strong sense that that the size and scope of the network was too ambitious to the relative size and resources of the Secretariat. The phrase 'collecting logos' was used repeatedly by interviewees to express frustration at GODAN's fast-growing membership versus relatively limited depth of follow-up and engagement. This tension between breadth and depth appears to be rooted at least in part in the different visions of USAID and DFID, and their different expectations around global advocacy and poverty alleviation.

In terms of power relations, the focus of GODAN has been on relatively high-level organisations on the supply side and intermediary side of ODAN, with much less engagement with more low-level and demand-side GODAN stakeholders. It was not GODAN's strategy to engage at this level, but it is also worth reflecting on the expectations of achieving the desired developmental impacts without an explicit strategy to promote the participation and agency of farmers and other grassroots groups in the open data space.

3.4 Hypothesis 4

Hypothesis 4: GODAN's high-level events and advocacy prompted high-level actors to take policy and political actions to **enable and promote** sharing, publishing, and using open data for agriculture and nutrition.

This hypothesis is based upon the assumptions that there are the political spaces - and there is the willingness - to create an enabling environment for open data for agriculture and nutrition. It also identified the risk that political commitments are not delivered or sustained across changing political administrations.

3.4.1 GODAN Summit

The GODAN Summit was the first global conference that advanced the role of open data for agriculture and nutrition to address global development issues of hunger and malnutrition. Held in New York in 2016, the Summit was a key achievement for the Secretariat and the foundation for much of the work that followed. It created a space to bring together a wide array of stakeholders working across the Open Data for Agriculture and Nutrition fields and was a pivotal moment in focussing attention and creating awareness of the potential of ODAN. The summit had 792 participants from 425 organisations across 46 countries and was covered by 150 media outlets¹⁸. The event combined many of GODAN's different engagement strategies including a high-level Forum and hackathon. The event was an opportunity to launch four major GODAN publications¹⁹ (three of which were produced by working groups) and launch, discuss and disband working groups.

Evaluation Question 2

Are key actors collaborating and committing to actions that will lead to a strengthening of the open agricultural and nutritional data ecosystem in developing countries as a result of GODAN?

Critical to this success was the strong political endorsement from high-level participants, including the US Secretary of State for Agriculture and Minister of Agriculture in Kenya whose meeting at the Summit to discuss open data was arguably the precursor the Nairobi Declaration (Interview 21). Beyond providing a platform for influential policy makers to interact, it also brought together a wide range of stakeholders in this space and created an opportunity to interact and share ideas, described by a key open data thinker as 'a good moment of activity'. The summit put GODAN on the map as a key player in the open data space and also proved to be a particularly effective way to kick-start the GODAN network (Interviews 20, 15) which continued to grow exponentially from this starting point.

This kind of summit is very useful for networking and are good for bringing people together, making sure that people know each other. It's an opportunity for those that are attending to learn about what the others are doing.

(Interview 14)

The Summit, as GODAN's flagship event, created a platform that brought different stakeholders together to promote their diverse open data initiatives. This reportedly led to partnerships that have continued to this day (although we do not have specific examples). One of the key successes of the event was to highlight the novel link between the open data communities and the agriculture communities and, to a limited extent, the nutrition sector. From this perspective, GODAN positioned itself as one of very few organisations with an explicit sector focus in the open data space.

It's been a powerful convening power by marking out a space and saying we are going to talk about open data for agriculture and nutrition that makes people realise that there is something to be talked about.

(Interview 29)

¹⁸ <https://f1000research.com/documents/7-1328>

¹⁹ [A Global Data Ecosystem for Agriculture and Food; Ownership of Open Data: Governance Options for Agriculture and Nutrition; Responsible Data in Agriculture; GODAN Success Stories - Issue 1](#)

Whilst there was a degree to which the Summit brought together ‘people and organisations [who] were already primed to buy-in to GODAN’s agenda’ (Interview 25), there is also evidence of open data advocates who specifically attributed the realisation of the importance of agriculture and nutrition, and the expansion of their focus into these areas, to GODAN (Interview 39). Moreover, the visibility and momentum created by the Summit gave an additional impetus to actors already active in this space.

They were giving visibility to the issue and that was helpful to people like me who thought it was the right thing to do anyway. It was more providing cover and moral support for people who were trying to make change.

(Interview 11)

3.4.2 National advocacy initiatives

The evidence suggests that a key strength and achievement of GODAN was its focus on high-level advocacy amongst government ministries, particularly in African countries. Interviewees recognised GODAN’s contribution to a strengthened ‘willingness’ of government to do more and better to explore the benefits of ODAN. One of the key elements to this success has been the combination of GODAN’s access and high-level convening power.

GODAN is very strong in the area of advocating at political level and talking to governments about importance of sharing and publishing data openly. I think that this is, for me is the most meaningful role of GODAN... the level where GODAN can go, which is the high political level, this is difficult to reach... so this is exactly where they have to be strong and they are.

(Interview 14)

One of the key reasons cited to explain GODAN’s political reach is the ways that ODAN has managed to successfully circumvent the normal political sensitivities around transparency and accountability that exist in many African governments. GODAN’s work in collaboration with the Open Data Charter to produce the Open Up guidelines²⁰ was cited as having created a safe space to discuss open data that is less politically charged than other open data conversations:

This [the Open Up guidelines] is a very good tool to help government to open agricultural data... By using the guide, you can talk with government without touching politically sensitive data. Our societies, we are very closed, with poor accountability, unbalanced power balance between government-society. Using GODAN's material on agriculture and nutrition, they are not politically sensitive. This is a good way to approach governments.

(Interview 36)

Another dimension of GODAN’s political strengths cited was the ability to break down ministerial silos, make connections, and convene key people from different areas of political life. Ministries function as hierarchies, but horizontal conversations across different ministries are rare and GODAN had the ability to bring those different voices to the table. One element of this success was the ability to effectively link GODAN’s message to national political agendas, including the Leave No One Behind agenda and building awareness and sensitisation of the potential of open data to support work towards the SDGs. In this sense, GODAN was not only viewed as an advocate for open data, but also as a source for policy recommendations (Interview 30). These political conversations then created a broader space for dialogue beyond the governmental sphere.

²⁰ <https://openupguideforag.info/>

Up until then there wasn't a space where you could have those conversations. In that sense, GODAN has been extremely useful. GODAN Secretariat had conversations at the ministerial level and national stakeholders can piggyback on that. In the absence of GODAN as an intermediary or a vector to carry these conversations into the Ministry, it would have been really hard.

(Interview 33)

Despite the strength of GODAN's convening power, policy change is a slow and complex process and attribution to specific events or influences is hard to track and timeframes are long and rarely linear. Policy level impact is hard to achieve and there were some voices that claimed that GODAN could have done more to link advocacy work to direct investments into interventions and activities on the ground. High-level declarations may not always lead to concrete change, and more could have been done to follow up on commitments made when new administrations came to power (Interview 34).

While difficult to pinpoint specific examples (beyond the Nairobi Declaration discussed below), there was a strong sense amongst many interviewees that GODAN has been a key driver in strengthening the open data ecosystem and creating political will, even if specific political commitments and actions had not yet materialised:

How, when, and whether these at certain points materialized into policies and at country level, it could be that it takes time. But definitely GODAN has played a key role in influencing the political agendas around the concept of open data and it was not there before.

(Interview 14)

For policy change... We are still not there. There are connections being strengthened... we are far from a real policy change, like a ministry committing to the Open Data Charter, or committing to use the Open Up guide. But this is a long-term goal. But we are looking at other countries around us to learn what can be done.

(Interview 36)

3.4.3 Influencing institutional policies

GODAN work also influenced work on open data policies in a number of high-level organisations. These include the FAO policy on open data for statistics which, according to a member staff, would not have happened without GODAN. This played a role in building capacity, bringing together different groups across the organisation and providing an external voice to promote the benefits of open data. Another example was the initiative spearheaded by GODAN in partnership with the Open Data Institute to assist DFID, Gates, and USAID to develop open data policies. This resulted in a brief, published by GODAN, and instigated internal discussions among these organisations around commitments to opening data, but did not result in concrete policy change (Interview 20). Finally, Syngenta's open data policy and publication was also signalled as a notable GODAN outcome with several sources reflecting that, while Syngenta had an interest in open data prior to its engagement with GODAN, it was the partnership with GODAN that provided the additional support and structure to move this forward (Interviews 29, 20, 3, 27).

3.4.4 Balance of political and technical focus

These reflections highlight another tension in GODAN's work in terms of finding the right balance

between the political and technical dimensions. This is related to, but also distinct from the issue of, breadth vs depth discussed above. The different areas of focus of GODAN Secretariat and GODAN Action represent a two-pronged approach. GODAN Secretariat acts in the political advocacy sphere and GODAN Action focuses on building technical expertise. The underlying theory of change - that the political advocacy work would support the policy and legislative environment, which would pave the way for technical innovations to create new products and services to follow - did work to some extent. However, the work at the policy and technical levels was often disjointed. The assumption that actions in the policy space would open data that would facilitate new products and services that would lead to impacts oversimplifies: i) the situated complexity of the political economy challenges in opening data; and ii) how open data creates value in practice through new products and services. Without a clear strategy for use and consideration of the consequences of opening data there may not be a service or product that adds value. GODAN's supply-side efforts to increase the availability of open data is insufficient to create demand-side innovation abilities and capacity in terms of how make effective use of ODAN through the creation of innovative products and services at the local level.

I think they've done a lot of good working connecting with agriculture folks that have expertise in agriculture and nutrition, that are developing or policy makers deciding the strategies and informing practices in those spaces, but in terms of more of the standardized and technical communities around data, I haven't seen that being linked as much or plugged into that space. (Interview 37)

That said, some would argue that this interface between the political and technical is precisely the space that GODAN did create for itself and effectively occupy, particularly in Africa. The emphasis on open data is seen as an important mechanism to support African nations to benefit from technologies, by ensuring that new technologies are appropriate to - and reflect - the African reality.

All projects could always have done more with the benefit of hindsight and, while important to note that GODAN's political achievements could have been reinforced by a greater emphasis on downstream interventions and innovations, this should not reduce the recognition of GODAN's successes in the creating this political space in the first instance.

I don't think we are there yet. GODAN's mandate is probably more important now than in the past. We have so much transboundary issues; these are even bigger when countries start to get wealth because people and goods travel more. We need organisations who can advocate at the right government levels. I'm working at a sector specific area of work with technical people. Not at cabinet level. Where GODAN was, is at that government level and cabinet level. (Interview 26)

This has been an important contribution to putting ODAN on the political map and has been greatly appreciated by many of the players in that space, for whom GODAN has been a force to push conversations forward and create opportunities that they otherwise would not have been able to achieve alone. Moreover, there is still a long way to go and, having successfully created awareness and established political will, capitalising on this foundation requires significant ongoing support and coordination.

3.4.5 Reflections on Hypothesis 4

There is evidence that GODAN's high-level events and advocacy prompted some high-level actors to take action in the form of declarations and commitments to promote use of open data. GODAN has been very successful at convening political actors and creating awareness and commitments to ODAN at the highest political levels. These high-level events have increased the visibility and legitimacy. This has created a domino effect that has enabled GODAN to move from one opportunity to the next. The NY Summit lay the foundations for future political engagement, particularly the Nairobi Declaration discussed below, which subsequently opened doors for ongoing policy advocacy across Africa. These ongoing engagements across political spaces have undoubtedly contributed to a more conducive enabling environment for open data, although, it is hard to pinpoint specific policies and initiatives that can be attributed to GODAN's advocacy. GODAN has also influenced the institutional policies of key organisations such as FAO and Syngenta by creating spaces to consider the implications of - and processes for - opening data. Even if open data policies have not been fully implemented in these institutions, the evidence corroborates GODAN's contribution to moving those conversations forward.

This hypothesis is based upon the assumption that the political spaces and willingness were in place to support an enabling environment for ODAN. It is important to reflect that, while GODAN's focus on agriculture and nutrition gave it a unique niche and innovative entry points in the political discourse, it was not the only actor in the open data space. Some momentum already existed around the open data agenda, particularly in Kenya. GODAN contributed to, but could not be said to have created, this momentum. This hypothesis has also identified a risk that political commitments would not be delivered or sustained across changing political administrations. This once again highlights the broad scope of GODAN's mandate and associated challenge of providing sustained follow up and technical support to deliver against policy commitments. The evidence is much less clear on the extent to which policy commitments have led to specific political actions, or whether they have enabled and promoted sharing, publishing, and using open data for agriculture and nutrition. This is true of many advocacy initiatives and the pathway from advocacy to policy change to implementation is a complex and multidimensional process. That said, it could have been interesting for GODAN to work across different levels of engagement to explore how different elements of the political work, led by the Secretariat and the more technical work led by GODAN Action, complemented each other to provide both a conducive political environment, supported by sustained capacity, and technical assistance to deliver sustainable solutions and identify potential pathways to eventual developmental outcomes. This point will be further developed in the following section which presents a case-study of GODAN's activities in Kenya.

3.5 Hypothesis 5

Hypothesis 5: The policy and political actions (e.g. public commitments) that were triggered by GODAN empowered the ecosystem by creating an overarching enabling environment for open data for agriculture and nutrition

This hypothesis is based upon assumptions that the policy and political actions triggered by GODAN towards creating an enabling environment for open data are clear, sufficiently specific, and perceived as binding by relevant actors. This also assumes that the combined actions from GODAN Secretariat and GODAN Action contribute effectively to sustain the enabling environment. There are also risks that barriers to open data use remain (e.g. lack of funds, data ownership concerns) that prevent the

translation of actions into practices. There may also be push-back of important actors in the ecosystem as they do not want to lose their authority.

3.5.1 Kenya Case Study

In order to assess how GODAN's work created an overarching enabling environment, it is illustrative to explore the range of GODAN led and supported activities, how these reinforced each other to move the ODAN agenda forward, and where more could be done to consolidate GODAN's contributions. Kenya was the country where GODAN's message arguably found the most fertile terrain and where the project invested more resources than anywhere else, providing insights into the potential of GODAN's multiple activities to empower the open data ecosystem.

Evaluation Question 4

How much progress has been made towards an open agricultural and nutritional data ecosystem that facilitates increased supply and use of agricultural and nutritional open data for enhanced accountability and transparency, improved service delivery, innovation and economic growth? To what extent can this be attributed to GODAN Secretariat?

On July 15, 2017, the Ministerial Conference on Open data for Agriculture and Nutrition hosted by the Kenyan Minister for Agriculture, Livestock and Fisheries culminated in the Nairobi Declaration in which 15 African ministers representing countries such as South Africa, Congo, Sudan, Uganda, Sierra Leone, Rwanda and Ghana signed a declaration for open data collaboration in the nutrition and agriculture sectors with the aim to combat the global food security crisis. This declaration has since been referred to as the Nairobi Declaration, the full document can be found [here](#), though it should be noted that the document lacks a comprehensive list of signatories, which this evaluation was unable to locate.

This event was convened by GODAN and is the strongest evidence of a high-level political commitment that is directly attributable to GODAN. The Kenyan Government has been a long-term supporter of open data, having previously received substantial funding from the World Bank initiatives, and actively engaged with GODAN and the agricultural agenda from its inception. In 2015, the Minister for National Fisheries committed Kenya to join GODAN at a UN financing for development event in Addis Ababa. Later in 2015, at a high-level side event organized by GODAN at the Open Government Partnership summit, the relationship between GODAN and Kenyan ministry officials was reinforced. At the GODAN Summit a side meeting was convened between the Kenyan Minister of Agriculture and the US Secretary of State for Agriculture to discuss mutual interests and commitment to ODAN, which received media attention and created positive coverage of the potential of open data. The relationship developed through these ongoing engagements and mutual agenda to promote open data lay the groundwork for the 2017 event in Nairobi that led to the Nairobi Declaration.

Following the Nairobi Declaration, interviewees cited specific policies such as the Agricultural Sector Transformation and Growth Strategy in 2018, or Kenya's Open Data Policy and Data Protection Law that they believed were influenced by GODAN's work. Furthermore, one member of civil society believed that the Nairobi declaration influenced the Kenyan Government's decision to launch an open data portal in the Ministry of Agriculture (Interview 33). Another informant believed that GODAN's efforts influenced the Kenyan government's decision to include sections on agriculture in the 2019 census (Interview 38). The chief administrative secretary in the Kenyan Ministry of Agriculture attributed direct responsibility to GODAN's role in assisting the government to open up agriculture

and nutrition data for food security. This was strongly driven by relationships, both GODAN's acceptance 'at the highest level, at cabinet level, officially, making it much easier to then cooperate at the ministry levels' (Interview 40). Moreover, the relationship and involvement of the Chief Administrative Secretary on a GODAN steering committee, and involvement in the Ministerial conference helped to embed the GODAN agenda within the Kenyan Government and were also seen as factors that contributed to her appointment (Interview 40).

GODAN continues to provide technical support to staff of the Ministry of Agriculture to implement the Nairobi Declaration (Interview 27) and there is a strong sense that these actions have shifted governments open data behaviours.

Lobbying from GODAN has influenced how governments approach data, and they are trying to gather more and better. This was not there before.

(Interview 38)

GODAN's Africa Champion reflected on the challenges of moving these high-level political commitments through multiple levels of government. This champion highlighted the need to develop mechanisms to operationalise at the county level and break down political hierarchies move data between different levels of government in order to deliver benefits at the farm level. To do this, greater emphasis is needed on linking smallholder farmers, farmer organisations to different levels of government at both national and county and even ward level. Furthermore, the champion noted that promoting open data at the farm level requires clear communication and understanding of why farmers should engage with open data and also requires the consideration of the anonymisation of farmers' data.

GODAN Action was active in exploring solutions to link supply and demand of ODAN in Kenya. As part of the follow up to the GODAN Summit in 2016, The Ministry of Agriculture, Nature and Food Quality of the Netherlands funded a research project on 'Creating impacts with Open Data for Agriculture and Nutrition in Kenya'. In 2017 that developed a series of four showcases and a prototype²¹ linked to one of these cases. A [validation workshop](#) brought together over 25 representatives from Kenyan government, business and research sectors to 'scope the supply (i.e. available datasets) and demand (requirements of end users) of (open) data for agriculture and nutrition in the Kenyan context.' Conversations between GODAN Action partner Wageningen UR and KALRO on potential implementation of the showcases developed are ongoing. The thinking about next steps has been shaped by this experience and the connections between key stakeholders established at this and other GODAN events in Kenya.

Evaluation Question 10

What steps have been taken to create or integrate the work of GODAN Secretariat and GODAN Action with long-term processes, structures, norms and institutions for sustaining the investments made by DFID?

The agenda is shifting and moving beyond the political sphere to clearly articulate the benefit to actors across the entire agricultural ecosystem. This has seen more recent launches of GODAN projects on the ground in Kenya. One project develops partnerships between Kenyan universities and 'hubs' of farmers where students are 'anchored' within farmers organisations to support them to source data and build business with more structured community engagement. This hub model has a

²¹ Support to student led agricultural extension (led by University of Nairobi); 2. Using open data to support evidence-based policy making (led by WEnR); 3. Supporting start-ups (led by CTA); 4. Joint actions across the value chain for people, planet and profit (led by CABI) and associated prototype (co-developed by WEnR and CABI).

vision to integrate youth and create employment opportunities with initial examples being developed around livestock and dairy, and another on health and consumption which links to nutrition. But these are still in the early stages of concept development. With support from GODAN, these farm hubs have started collaborating with AgriBora, a startup that provides an application to support farmers and farmers' associations to make use of open data (Interview 31, 2).

There has also been strong emphasis on building capacity in Kenya through the GODAN Action work led by CTA, including the aforementioned work with the Kenyan Agricultural Research and Livestock Research Organisation, KALRO. This work led to participants utilising the training curriculum to deliver their own training to partners which included Kenyan farmers. Participants also went on to roll out the GODAN curriculum in different locations across Kenya that target farmers, entrepreneurs and practitioners. Capacity building continues in Phase II under the Programme for Capacity Development (P4CD) in Africa that has a strong emphasis on supporting the realisation of the Nairobi Declaration and promoting South-South exchange.

SenseMaker respondents provided further testimonies of the strong perception of GODAN's role to build capacity and provide training via online trainings.

I can now access more open data and case studies this has help me identify gaps in capacity in nutrition service delivery especially on growth monitoring and promotion data, growth promotion requires multi stakeholders approach which I got from accessing open data. The collection of growth monitoring data had improved, we now get more accurate data which has help in ordering accurate quantity of nutrition supplies.

(NarrID: 66)

GODAN trainings on principles and FAIR data have enriched my capacities to undertake development of e-content platforms on agricultural data for youth and women to foster job creation[...] GODAN trainings have built my data techniques, tools and methods for secondary data mining from web resources for agriculture, I have participated in the launch of Kenya Agricultural Observatory Platform www.kaop.co.ke on weather, climate and farmer advisories. Jointly with partners conducted the 1st data science and open data training in Kenya. I have developed a policy brief on data sharing in agricultural organization towards food security and shared widely.

(NarrID: 67)

However, there is still potential to further consolidate and empower the ecosystem and support an enabling environment at multiple levels in Kenya. Several interviews reflected that GODAN could be doing more to reinforce their political advocacy with concrete interventions that support local technical solutions for publishing and using open data. For example, GODAN has a rich diversity of partners located in Kenya, including a number of parallel initiatives in the competitive agri-app space that currently lack coordination mechanisms. This raises the question of the potential role of the GODAN network to create a space to convene conversations both horizontally across agri-app initiatives as well as to broker relationships with other stakeholders in this space to promote coherence and collaboration.

3.5.2 Reflections on Hypothesis 5

There is mixed evidence that the policy and political action (e.g. public commitments) triggered by GODAN empowered the ecosystem by creating an overarching enabling environment for ODAN that

has resulted in an increased ability among some ODAN stakeholders to publish, access, and use ODAN. Arguably, this predated GODAN and Kenya already had an enabling political and technical environment in place. Kenya had already signed up to Open Government Partnership (OGP) and was a continental leader in open data in general with an atypically high level of technology availability in terms of mobile and internet penetration levels and connectivity by African standards. The Government of Kenya has made significant investments in positioning itself as Africa’s ‘Silicon Savannah’ seeking to emulate the technological and economic dynamism of Silicon Valley in the USA and to promote the country as a leader in digital development. Kenya’s innovation culture is evidenced by the location of more than fifty technology and innovation hubs in Nairobi alone. Kenya also has one of the highest levels of digital awareness, skills and abilities on the continent. This alignment of political, economic, social and technical factors made Kenya particularly fertile territory for ODAN.

This hypothesis is based upon the assumption that policy and political actions towards creating an enabling environment for open data are clear, sufficiently specific, and perceived as binding by relevant actors. There is strong evidence that the Kenyan Ministry of Agriculture has built upon the foundation of the Nairobi Declaration and positioned Agriculture and Nutrition in the dynamic open data space in Kenya. A further assumption is that combined actions from GODAN Secretariat and GODAN Action contribute effectively to sustain the enabling environment. There is strong evidence from Kenya that both the political level contribution of the GODAN Secretariat and the technical capacity developed by GODAN Action has created a legacy of open data skills and attitudes, as well as relationships that may be the key enabling forces in the ODAN space in Kenya.

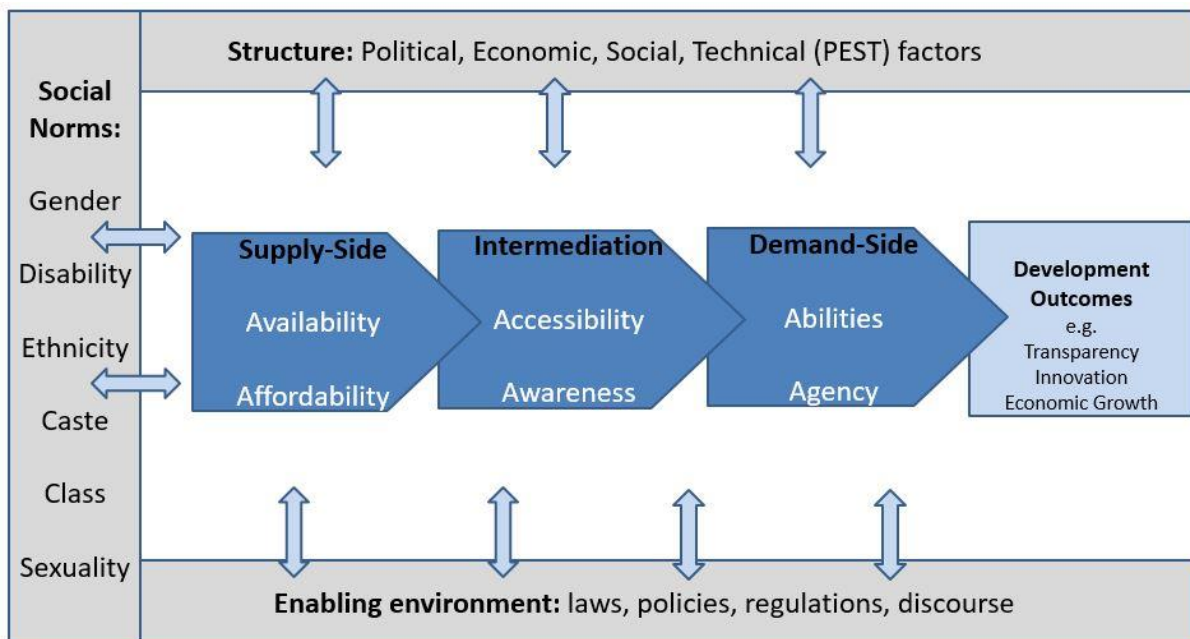


Figure 6: Structural Context of Digital Development (SCOT) Framework

While Kenya has been highlighted as an example of how GODAN empowered the ecosystem, the evidence of how the Nairobi Declaration has translated into political commitments amongst other signatory countries is mixed. There have been important advances in Ghana in recent years with a policy discussion document '[Towards Open Data for Agricultural Transformation in Ghana](#)' produced by the Ghanaian Ministry of Food and Agriculture, facilitated by the Dutch Ministry of Land, Nature and Food Safety and supported by GODAN Action partners Wageningen and CTA in 2019. This

document identifies a number of priority data sets to open and proposes guiding principles and policy options to support the national development plan. Ghana also hosted the [Africa Geospatial Data and Internet Conference](#) in 2019, suggesting that the national open data ecosystem is increasingly empowered. Examples of ODAN initiatives are emerging across Africa, with examples identified in Tanzania and Sierra Leone, but the enabling environment is still nascent.

Hypothesis 5 included as a risk that barriers to open data might remain (e.g. lack of funds and data ownership concerns) and prevent the translation of commitments into practices. This has clearly been the case in many countries. Kenya's economic strength allows it to make investments that are not possible in weaker economies. Its high-level political leadership (and broad civil society support) advocating the collective benefit of open data has been effective in allaying fears about data ownership. These enabling conditions are not in place in many other African countries. To be practically useful, an overarching enabling environment needs to exist within particular key institutions within a specific country. In practice, translating high-level international commitments into practical progress requires overcoming entrenched organisational culture, power structures and social norms. These contextual factors mean that the use of open data for agriculture and nutrition requires alignment of diverse factors and overcoming a range of barriers to access and effective use (as illustrated in Figure 2 and developed further in the literature review in Annexe 1). Whilst there is evidence of GODAN's strong contribution in getting ODAN onto the political agenda internationally, contextual political, economic, social and cultural factors mean that GODAN activities have translated unevenly into desired outcomes.

3.6 Hypothesis 6

Hypothesis 6: The various GODAN activities and resources contributed to an increased supply and use of open data for agriculture and nutrition to improve accountability, transparency, service delivery, innovation and economic growth

This hypothesis is based upon the assumption that unmet data needs are the critical limiting factors to increase *accountability, transparency, service delivery, innovation and economic growth*. Another assumption is that sufficient capacity exists to communicate open data effectively to trigger actions; and that increased use of open data directly or indirectly benefits women.

This hypothesis leads to a more academic reflection of whether open data improves transparency, service delivery, innovation or economic growth. The evidence of GODAN's contribution to these developmental outcomes is largely anecdotal. It has been beyond the scope of this evaluation to conduct an exhaustive impact assessment of the changes in these areas, so the discussion of GODAN's contribution is based upon the evidence generated for the previous hypotheses and the review of existing open data literature in Annexe 1. In considering the evidence available at this level, it is important to emphasise that GODAN Secretariat was designed as a global advocacy initiative, which was supported by GODAN Action's highly specialised and technical capacity support targeted at the institutions with potential to publish, access, and use open data. GODAN was not created to increase innovation; GODAN was the innovation.

In terms of bringing people together behind common principles, creating a global momentum, GODAN is mission accomplished. Open Data covers all topics but the focus on Open Data for Agriculture and Nutrition with a common thread that links to global food insecurity will continue to generate impacts into the future that we won't realise.

(Interview 21)

However, GODAN does have a challenge to communicate its impact. Despite uncovering broad support and appreciation for GODAN's role in promoting ODAN, strong evidence of innovation and data demonstrating economic benefits of open data has not been forthcoming. The evidence of contribution to improved service delivery and accountability and transparency is anecdotal and it has been a challenge for the evaluation to uncover more comprehensive and rigorous evidence. Several interviewees, including donors, cited GODAN's difficulty in communicating its outcomes and overall impact, particularly for its advocacy work and work with governments (Interviews 21, 20, 28, 17,18). A lack of investment in concrete actions to follow up on its advocacy work has been frequently cited for this lack of evidence of GODAN's impacts:

Translating the advocacy into impacts then requires investments, and this is not something GODAN did.
(Interview 35)

There are some examples from interviews of how GODAN equipped and empowered actors to access and use open data on agriculture and nutrition, and that this improved service delivery. For example, a former government employee in an African country noted that as a result of his participation in GODAN training, he acquired skills to use agricultural and nutrition data:

GODAN has improved service delivery because the farmers they have more information on when to farm and where to sell their products... It also supported in the teaching of nutritional improvement using small resources to have high value nutrition among dwellers... The suppliers and government benefit, because they now know what the farmers need, they know where the farmers are and they're able to follow up.
(Interview 19)

Likewise, there are anecdotal accounts of how access and use of open data increases accountability and transparency, for example encouraging governments to publish open data.

GODAN is supporting the opening of all geo data to improve agriculture in East Africa. So, we have more data on geographical information in East Africa...If you publish a data. It's a transparency. Because before citizens didn't have access to these geographical data, but now citizens can see, they can download they can use this data, so for me it's transparency.
(Interview 15)

3.6.1 Farmer level and gender impacts

The evaluation was specifically tasked with identifying the benefit to women, particularly women farmers in developing countries. Interviewees were all asked who they believed has benefited most from GODAN's work. Responses ranged from broad groups such as 'open data users' to specific types of people such as governments, particularly Ministries of Agriculture (Interviews 35, 31, 33, 38, 39). There was a commonly shared assumption that whether the direct beneficiaries of GODAN's work were intermediary actors in the agriculture and nutrition

Evaluation Question 8

Has the programme had a beneficial impact on women in terms of providing a greater voice in decision making; greater choice in opportunities to benefit from paid work and to have sufficient income; and greater control over their income, productive assets and other resources?

spaces or government stakeholders, that the benefits of open data would trickle down to farmers. (Interviews 17, 27, 39, 37)

Philosophically, we would expect smallholder farmers as well, but they are quite removed from the higher level conversations so it would be difficult to ascribe any impact downstream in that sense.

(Interview 33)

Our main beneficiary will always be the farmer through innovations that people come up with, but our approach was that we didn't work directly with the farmers... We can say that the farmers have benefited if we look at what these intermediaries have gone on to do.

(Interview 17)

With regard to women farmers benefiting from GODAN's work, there was an assumption that ODAN interventions would benefit women due to women's prominent role in agricultural production.

Small scale farmers are mostly women in this country. Men do not farm. So, if you do something to support small-scale farmers with open data, it is naturally targeted to them as beneficiaries, even if there is no explicit women focus.

(Interview 40)

Or that the benefits of GODAN would reach men first, but eventually extend to women:

But if you see the ecosystem of farmers of open data leaders, you have more men than woman. So it means that men benefit more than women from direct support of GODAN, but if you go to the end of the channel, you will see that everyone is benefiting because if you use the knowledge of GODAN to improve your production in agriculture, everyone will benefit, the men or women everyone will benefit.

(Interview 15)

These assumptions contradict the existing literature on the gender barriers to open data discussed in Annexe 1. The question of targeting and benefitting female farmers in LMIC is complex and the challenges for women farmers to access extension services is well documented. Examples of these include limited mobility and time to attend meetings, intimidation to participate in male dominated meetings, less attention from extension services due to women's stronger focus on subsistence farming. Women also face barriers in access to technology. Initiatives to provide female farmers with relevant open data (e.g. weather data, crop information, market price) do have potential to help to actively address gender-based information asymmetries. However, this is unlikely to 'trickle-down' without efforts and investments to specifically address gender dynamics, power imbalances and other intersectional challenges faced by marginalised farmer groups.

The GODAN theory of change was not to intervene directly at the farmer level or specifically target women farmers, so trying to uncover impacts at this level is beyond the scope of this performance evaluation. GODAN's target group were high and mid-level position stakeholders of various organisations and institutions that work for or with farmers. GODAN aimed to increase these stakeholders' capacity and understanding of open data and facilitate their active use and access of open data. The causal chain that connects the political and technical work of GODAN with the desired economic and empowerment impacts at the farmer and household level were not clearly articulated in GODAN's theory of change and would require new pathways and intervention strategies.

Hardly any farmers were ever at any of these convenings. We would have high-level farmers organisation representative who himself is a farmer, but I think that's a different level of exposure. That was always the question that would come from open data people at GODAN events 'where are the farmers?'
(Interview 34)

GODAN's mandate was already exceptionally broad and to intervene in the end-user space would have required a substantially larger budget and a different team composition. Whilst this was not feasible for GODAN in the period of this evaluation, investments to support engagement with end-users have potential to build a stronger understanding of the barriers and drivers to access and use of open data in different contexts at the farm level. The literature review in Annexe 1 explores the existing literature on the barriers to open data use and equal distribution of benefits. The literature proposes the Structural Context of Digital Development (SCOT) conceptual framework (Figure 6) to support future analysis of both the barriers and drivers to link supply side, intermediation; and demand side access and use towards the desired developmental outcomes of improved service delivery, transparency, accountability, innovation, and economic growth.

3.6.2 Contribution of other organisations

Before concluding this discussion of the developmental impacts of open data, it is important to note that there are also a number of other organisations and initiatives that are active in the open data space, although none with the specific focus on agriculture and nutrition.

Some of the comparative examples that have been mentioned include European Open Data Portal, CGIAR, Open Data for Development Network, Global Partnership for Sustainable Development Data , Global Data Barometer (Interviews 31, 33, 47, 24) or organisations that focus on specific themes, such as seeds or soil, in specific regions (Interviews 11, 47). Interviewees also cited organisations or initiatives with which GODAN has partnered such as Open Data Institute, Open Data Charter, Research Data Alliance, and Land Portal (Interviews 33, 28, 34, 35, 36). However, many of these initiatives were described as '*fragmented*' (Interview 30).

The Open Government Partnership was also mentioned as a key player in promoting high-level commitments from governments but without the specific focus on agriculture and nutrition (Ania; Josh). Similarly, the School of Data was noted as a provider of capacity building training but did not have an agriculture or nutrition focus (Interview 37). In fact, it was noted that '*there are few organizations that are focused on a specific sector, on the value of data around a specific sector, GODAN has been quite successful in making the case for that*' (Interview 37). Other interviewees described GODAN as '*fairly unique*' (Interview 46) or believed that '*no one is doing what GODAN does in the same way*' (Interview 29).

3.6.3 Reflections on Hypothesis 6

There is significant evidence that GODAN activities and resources contributed to an increased supply and use of open data for agriculture and nutrition. There is less evidence of the extent to which this improved innovation and service delivery and least evidence that it has led to transparency and accountability or economic growth, which also supports the empowerment of women.

On the supply side it is clear that GODAN activities and resources have increased the availability of ODAN by creating awareness, securing political buy-in and supporting the producers of open data with standards, tools, and training to enhance skills and abilities. GODAN has produced some impact stories to illustrate improved service delivery and this was corroborated by interviews. Evidence to support the extent of GODAN's contribution to securing increased transparency and accountability is largely anecdotal. GODAN's own impact stories have a communications value but, as a form of evidence, they are often unclear about the specific nature of GODAN's role and provide relatively few concrete examples of how GODAN interventions have directly contributed to impact. It is in GODAN's own resource mobilisation interests to strengthen both its internal monitoring and evaluation expertise and capacity, and to systematically capture evidence of its contribution to demand-side development impact.

Evaluation Question 4

How much progress has been made towards an open agricultural and nutritional data ecosystem that facilitates increased supply and use of agricultural and nutritional open data for enhanced accountability and transparency, improved service delivery, innovation and economic growth? To what extent can this be attributed to GODAN Secretariat?

4. Governance

GODAN had a multi-dimensional governance model with various levels of coordination; the Secretariat was managed by CABI and coordinated through a Donor Steering Committee comprised of representatives of DFID, USDA and the Dutch government. There was also strong and frequent coordination between GODAN Secretariat and GODAN Action and finally between the members of the GODAN Action partnership. Given the number of institutional actors involved and the ambition of the project, the governance mechanisms were for the most part extremely effective with strong respect and collaboration between participating organisations with clear mandates and boundaries that delineated partners' roles and responsibilities.

Evaluation Question 3

How effective were the governance structures for GODAN Secretariat (including the role of the Donor Steering Committee) as well as the split of work between GODAN Secretariat and GODAN Action?

4.1 Donor Steering Group

The concept of GODAN was developed between DFID and USAID with lower levels of financial support from the Dutch Government. Funding to - and reporting by - the Secretariat were streamlined, with DFID and USDA funds jointly administered through USDA, with DFID leading on reporting and Monitoring and Evaluation. Feedback on the efficiency and effectiveness of this arrangement was positive and no major issues emerged throughout the course of the programme. In addition to the joint funds to GODAN Secretariat, DFID separately funded GODAN Action with both GODAN Secretariat and GODAN Action reporting against a shared log frame that was managed by GODAN Action lead Wageningen. This arrangement also functioned effectively and proved to be a pragmatic approach to managing the overlapping funds and shared objectives between the different funders and elements of GODAN.

However, the evaluation also uncovered some differences between USDA and DFID conceptualisation of GODAN and divergence in perspectives of GODAN as either a high-level global advocacy initiative or a development intervention that would ultimately support empowerment and economic growth. There is no evidence that these positions created issues at the level of the Donor Steering Group, although arguably these different visions of GODAN did create tensions at the implementation level with different positions on the where the balance should sit between focussing resources and emphasis on broad outreach and advocacy, and pursuing a more targeted approach to deliver on development objectives. The donor steering group were pulled into these conversations, but more could have been done to anticipate and negotiate the trade-offs between these alternative visions of GODAN.

One of the expectations of the Donor Steering Group was that the original partnership would create a stimulus and incentives for other national governments and international organisations to contribute funds, and that this would foster increasing political and financial momentum around GODAN. The hope that new political players would align with GODAN's mission, and pledge financial and in-kind support was unfounded:

The hope was - and this never materialized - that other countries or other donors would do something similar - that they would pick other barriers to open data for agriculture and nutrition by funding something of their own. That never really worked out. The best that we got was donations of a person's time from other organisations.

(Interview 20)

4.2 GODAN Secretariat

The GODAN Secretariat was managed by CABI International who effectively delivered the first phase of GODAN and coordinated proactively with GODAN Action partners. Some lessons have been generated from the governance on the importance of strong communication capacity and clearly articulated line management.

Given the complexity and scope of GODAN clear communication of its vision, mission, and outcomes, it is key to continue to build political momentum and attract new sources of funding. In the new phase of GODAN, the Secretariat has recruited a communications support from a UK based company to support with communication strategy and delivery, supported by stronger communications experience at the Deputy Director level. However, during the first phase, high turnover in staff in the communications role was a challenge and limited GODAN's ability to communicate the outcomes of high-level advocacy work (Interview 21, 46). GODAN produces regular webinars with healthy attendance levels (as mentioned above), suggesting this sort of communication tool is effective in sharing information, and it appears that there is strong demand for the information that GODAN generates. However, GODAN has also not prioritised supporting communication activities with network members through working group facilitation or other knowledge exchange spaces to promote stronger collaboration and innovation between network members.

The GODAN Secretariat developed a gender mainstreaming policy in 2016 which outlined a commitment to reducing gender inequality and acknowledging gender related differences in need. This includes CABI's Project and Programme Gender Strategy and CABI's Workplace Gender Strategy, as well as referencing specific elements of CTA's Gender Strategy and DFID's Business Case: UK Support to the 'Global Open Data for Agriculture and Nutrition' (GODAN) initiative. This policy includes Secretariat staff abstaining from male only panels; insisting in strong female representation

in its trainees, speakers and champions. It also systematically reports on the percentage of females involved in events sponsored by/organised by GODAN. However, the evidence suggests that this policy was not widely referred to and more could have been done to raise awareness both of its existence and the working principles it promoted. As one GODAN Action partner reflected; *'There were no activities related to gender or anything, I don't think this covered that at all. I'm not aware of GODAN's effort in the area'* (Interview 3).

During the first phase the Secretariat did not have a specific gender expert on staff, although this has been rectified in Phase II. The gender policy has not been updated since 2016 and has largely been operationalised as the disaggregation of participant data. GODAN is active in the gender debate, for example through a roundtable presentation at the [Africa Women Innovation and Entrepreneurship Forum \(AWIEF\)](#) in October 2019 and with planned participation at the Gender Summit in 2020. However, it is not evident how participation at these high-level events translates to strategies and activities that guarantee open data delivers equitable direct and indirect benefits to women and men. It would be timely for the GODAN Secretariat to revisit and update both its gender policy and theory of change to ensure that GODAN's gender focus goes beyond promoting the participation of women or sending men to participate in international gender events to ensure that the open data ecosystem supports empowerment and equitable access for women to the benefits of open data and promotes women's agency in open data conversations.

4.2 GODAN Action

GODAN Action was widely perceived as a very successful partnership in the consortium. All partners were highly complementary of each other and the way that GODAN Action created a space for collaboration but also sufficient space to focus on and develop their specific area of expertise and interest. The greatest challenge cited was a lack of flexibility for adaptation, which limited the opportunities to adapt and respond to emerging trends or opportunities; *'Administrative procedures were killing the process, there was no flexibility to move budgets around and change operational conditions, which makes it difficult to be adaptive'* (Interview 8).

In practice, this meant that GODAN Action was tied to the log frame indicators that it had established early on with no scope to adjust these based upon what partners were learning. This also created difficulties for some southern partners to access GODAN financial support to reimburse travel costs, which in some cases took many months.

On gender, GODAN Action also prioritised promoting women's participation in trainings and events:

We tried to get women. We told ourselves a minimum of 30% of any events. I think we managed, all of our online courses we had a minimum of 30% women taking part... We've just given ourselves that target.

(Interview 17)

In terms of content, the gender dimension is completely absent from both the MOOC and the impact narratives developed by the impact evaluation work. CTA-GODAN produced a webinar on [Gender and Open Data](#) but the gender focus was negligible. It would be valuable to revisit the content and guidelines developed with a gender lens.

4.3 Relationship between GODAN Action and GODAN Secretariat

GODAN Action and the GODAN Secretariat were separate entities with distinct and separate roles within the programme. Coordination between GODAN Action and the GODAN Secretariat was

effective for most part with strong coordination to reflect respective organisational strengths, networks and contacts (Interview 20, 34). The two initiatives shared a log frame and theory of change. This coordination was particularly strong around high-level events. Materials and presentations were often shared or promoted by the different GODAN teams. The general impression was that the two initiatives were complementary, and their mandate was broad enough for both initiatives with sufficient overlap to enable convergence and coordination.

5. Conclusions

The objectives of this performance evaluation were to assess the performance of the GODAN programme. The evaluation found clear evidence that GODAN had made progress against most elements of the six hypotheses. GODAN has equipped its partners and stakeholders by providing evidence, tools, and standards, as well as built its partners' and stakeholders' capacity to overcome bottlenecks and increase their production, access and use of open data. GODAN has also been successful in convening its partners and stakeholders to form a useful network and used high-level events to secure policy commitments to increase the publishing and use of open data for agriculture and nutrition. Finally, GODAN has contributed to an enabling environment for ODAN in some countries and increased the supply and use of ODAN in a range of agriculture and nutrition applications.

At the core of the GODAN network were the GODAN Action partners, a committed group of institutional partners who used the opportunity created by GODAN to collaborate on areas of common interest to move both their shared institutional open data agendas and the global open data conversation forward. The strong relationship between the GODAN Secretariat and GODAN Action, as well as between the GODAN Action partnership, created a constructive and innovative space that has undoubtedly empowered the open data ecosystem. Beyond this dynamic core, GODAN has been successful in signing up a breadth of GODAN members but this has been at the expense of pursuing depth of engagement. GODAN has successfully brought together a broad range of different intermediary organisations that represent every conceivable interest group in the ODAN space with an implicit assumption that the intermediation needed to bring the supply and demand of ODAN will emerge autonomously within the network, as exemplified by the hands off approach to working group facilitation. Beyond these working groups and the participation at global events and training courses, there is limited evidence of how GODAN's worked to facilitate horizontal relationships between intermediaries to foster ODAN innovations by connecting supply and demand. GODAN has been most successful in generating high-level political awareness and commitments and in building capacity and stimulating increased supply-side availability of new open data for agriculture and nutrition. There is less evidence of how this political engagement and technical training have delivered the policies or programmes that would strengthen demand-side use of ODAN to deliver development impacts.

GODAN's performance has been limited by the broad scope of its mandate which has necessarily involved trade-offs. GODAN could have done more to join up its political and technical work. Even in the Kenya case study, which provides the strongest example of GODAN's brokerage, there is a disconnect between the political and operational work and relevant partners in these different spheres, leading to missed opportunities to identify synergies between members and optimise the overlap in activities to consolidate the eco-system. There is limited evidence of a whole systems approach and lack of clear causal pathways that demonstrate how interventions at one level, for example in the national political space, supported technical programmes that led to operational

changes. For example, while GODAN was very successful at high-level political advocacy at the ministerial level, there is less evidence of direct engagement and support at the mid-level technical level. At the operational level of farm interventions, the evidence is even more disparate.

Another trade off was between agriculture and nutrition and, despite the thematic work delivered by GODAN Action on nutrition, there was a clear prioritisation of agriculture in GODAN. This is not a complete surprise given that opening up nutrition data could pose several additional challenges. Such challenges include ethical risks; negative consequences for programming and policy due to poor data (especially of anthropometric measurements); and limited representativeness. Incomplete or poor-quality data can lead to under-reporting of nutritional problems and misinterpretation if data are not sufficiently contextualised. Some GODAN outputs discussed agriculture and nutrition data together which can be risky if the specific challenges of making nutrition data open access are not acknowledged. However, it needs to be highlighted that GODAN also actively engaged with - and promoted the use of - excellent and reliable sources of open nutrition data such as the Global Nutrition Report.²²

This level of coordinated engagement across multiple levels, to deliver on political, technical, social and economic dimensions of open data was never feasible with GODAN's resources. GODAN's expertise was facilitation and advocacy; budget was not available to follow up gains made with pilots and interventions. This has led to the perception of stretch. For some, GODAN was simply stretched too thin, without sufficient resources to follow up or consolidate connections made or opportunities identified. For others, GODAN's agile approach to advocacy and the access to events and policy conversations was a key strength and successfully 'stretched' limited resources on a global scale to highlight the specific issues of agriculture and nutrition within the open data discourse. GODAN and other open data initiatives still have a substantial journey ahead and this performance evaluation of GODAN offers some important learning as discussed below.

6. Lessons Learnt

This section provides a summary of the key lessons from the GODAN performance evaluation. It is framed around specific lessons for other programmes which share a similar agenda and goals, such as digital tools for agriculture programmes, open data for development programmes, and influencing organisational and governmental policy on data programmes.

²² <https://www.godan.info/pages/global-nutrition-report-and-open-data-httpswwwyoutubecomwatchvecqkokaky2w>

6.1 Digital tools for Agriculture programmes

- Monitor who the end-users are. If targeting women farmers, ensure there is an explicit gender strategy in place from the outset that is reinforced throughout the programme.
- Ensure any piece of digital technology for agriculture is carefully fit for purpose and context.
- Convene different stakeholders who are building digital technology for agriculture within a specific region or country. Failure to do so may result in a duplication of efforts.
- Developing illustrative cases of impact that demonstrate the utility of digital technology in agriculture is a useful tool for specific project stakeholders as well as the programme at large.

6.2 Open data for development programmes

- Dual component programmes which combine a global advocacy initiative for open data as well as technical capacity support are a valuable and effective approach to strengthening an overall open data ecosystem, but strong mechanisms are needed to ensure coordination across these different components.
- Take a systemic view to think about the needs and opportunities of different stakeholder groups and how programmatic resources can link and strengthen the connections across different parts of the open data ecosystem.
- Carefully consider the different types of target stakeholders within the open data ecosystem, how they are categorized and how effective the programme will be at reaching them. GODAN categorized its stakeholders as open data users, publishers or enablers making it unclear how to reach many groups with lower levels of accessibility, either due to limited access to technology, language, literacy or visual impairments. Without special attention paid to such disadvantaged groups, there is the risk that open data leaves these groups further behind.
- Ensure that the theory of change makes explicit the assumption that intermediary organisations use programmatic resources to promote the benefits of open data for end users.
- Capacity building through online courses and webinars, face-to-face trainings, seminars and workshops can also be effective at building relationships between different stakeholders working to access, publish and use open data.

6.3 Influencing organisational and governmental policy on data programmes

- Engagement strategies that target policy actors can benefit from providing an evidence base and tools for open data activities. Increasing the supply and availability of articles, case studies and stories, as well as guidelines on standards and evaluation methodologies were valued by GODAN's high-level stakeholders.

Evaluation Question 11

What specific lessons are there for other programmes in the following areas:

- *Digital tools for agriculture: What can development programmes focused on digital technology in agriculture learn from the experience of the GODAN programme?*
- *Open data for development: What can development programmes focused on improving open data learn from the experience of the GODAN programme, especially DFID's planned follow-on support to the GODAN Secretariat?*
- *Influencing organisational and governmental policy on data: What can development programmes focused on influencing organisational and government policy on data learn from the experience of GODAN Secretariat?*

- Tracking how different audiences have accessed and applied specific tools and referred to resources in their open data activities can help to build an evidence base of both the value of these materials and the broader benefits of open data interventions.
- Networks built around a common data agenda, such as agriculture and nutrition, can create effective channels and innovative entry points to political conversations and in some cases can circumvent sensitive political conversations around transparency and accountability.
- There are trade-offs and strategic decisions needed to strike the right balance between breadth and depth in networks. The right balance between breadth and depth will vary depending upon the objectives and outcomes identified. Clarity and consistency are important to ensure that there is a shared vision of what the programme is trying to achieve.
- The pathway from advocacy to policy change to implementation is a complex and multidimensional process. When working to influence political discourse and influence policy, ensure that this mandate includes sustained follow up and technical support to reinforce messages towards policy commitments.

7. Recommendations

The evaluation has identified the following list of recommendations based upon lessons learnt from the first phase of GODAN. These recommendations are primarily focussed on the second phase of GODAN but are also relevant to other open data development programmes such as those mentioned above.

7.1 Facilitate communication between political and technical level stakeholders.

GODAN Secretariat has placed substantial emphasis on high-level advocacy based on a theory of change that this opens up political space and creates demand for the more technical tools and support provided by GODAN Action. **A more explicit strategy on facilitating communication between different levels and areas of government is recommended;** for example, between the national Ministry of Agriculture and local-level government officials who may be more effective to translate political commitments into operational solutions. **Other stakeholders should be brought into those conversations as relevant to capitalise on the power of the GODAN network to create ‘innovation systems’ and identify synergies and opportunities for innovation and new services.**

7.2 Increase attention to the use of open data to demonstrate developmental benefits.

Stronger emphasis on supporting and demonstrating the role of the open data to support agricultural and nutritional impacts in farmers in the global South is needed to bring together the political and technical elements of GODAN’s mandates. Stronger evidence of effective use of ODAN to support development outcomes and clearly demonstrate social, economic and environmental benefits would continue to strengthen the messages of GODAN’s global advocacy and incentivise increasing investment in the ODAN space. Building this evidence base and engaging with the challenges and drivers of open data use on the demand-side is resource intensive. It would require greater focus and concentration of activities and interventions. **Identifying a flagship issue or challenge and then focussing various elements of GODANs work around this, as demonstrated by the prioritisation of thematic topics in GODAN Action, can support a more systemic approach that draws upon the technical and political dimensions of GODAN’s work to bring together open data stakeholders to identify and promote solutions that drive transformative change.**

7.3 Explicitly address the politics of open data

Open data is innately political and cannot ignore the implicit power and capability imbalances that threaten to leave some stakeholders behind. **GODAN should more explicitly address the politics of open data in its theory of change and clearly articulate its assumptions of how GODAN promotes equitable access to the benefits of open data.** GODAN Action's evaluation framework places significant emphasis on the political economy and power dynamics of open data and further work is needed to ensure that these political economy and power analyses are mainstreamed into open data initiatives to ensure that implicit inequalities are identified and addressed. The assumption that benefits from a stronger open data ecosystem will trickle down to women, smallholders and the disabled is insufficient and needs to be reassessed if future GODAN activity is to achieve the objective in GODAN's vision statement to produce more equitable agriculture and nutrition systems.

7.4 Increase emphasis and awareness of the particular risks and challenges of opening nutrition data:

GODAN needs to acknowledge the inherent differences in agriculture and nutrition data and acknowledge the specific risks and challenges with regards to opening nutrition data. GODAN should revisit and clearly articulate assumptions around the dynamics of agriculture and nutrition and ensure that sufficient resources and dedicated attention are invested in nutrition as well as agriculture.

GODAN needs to acknowledge the ethical risks and potential negative consequences for programming and policy of opening up nutrition data in the context of poor and incomplete data with limited representativeness, that can lead to under-reporting of nutritional problems and the risk of misinterpretation without sufficient contextualisation of data. Discussion of agriculture and nutrition data together creates risks if the specific challenges of making nutrition data open access are not acknowledged and moving forward GODAN needs a much more nuanced discourse around open data for nutrition.

7.5 Update gender policy and set ambitious targets on gender and diversity representation.

GODAN should update its gender policy to apply a gender mainstreaming approach that integrates gendered perspectives into its training materials and guidelines and identifies clear pathways to deliver gender equity and diversity. GODAN also needs to explicitly address gender in its theory of change and clearly articulate the pathways through which women farmers are assumed to benefit from ODAN and the pathways through which GODAN will contribute to women's agency to access, publish and use open data. The gender policy should include the continuing collections of gender-disaggregated data and should incorporate mechanisms to periodically reflect on targets on female participation and strategies to support women's agency and leadership both within GODAN Secretariat as well as across the open data sector.

7.6 Make programmatic data open, including members list and monitoring data

As a global open data advocate, GODAN should be a standard-bearer in this field and present itself through a website which upholds the highest open data standards, such as the FAIR Data principles. GODAN should show greater sector leadership in its own open data standards, for example, the list of members on its website should be made machine readable and easily downloadable. The vast resource library generated in the first phase including the tools and resources developed by GODAN Action and the policy guidance documents produced by the Secretariat should be clearly sign-posted on the new website.

7.7 Provide stronger sector support and brokerage

GODAN has successfully created a unique space in the open data conversation and established political momentum and a global network around ODAN. **GODAN should reflect on how to best nurture and consolidate its global network and how to deliver an effective brokerage function and whole systems approach to ODAN.** Some specific gaps identified include a need for an ODAN actor to host an umbrella repository of available open data for agriculture and nutrition and the need for an ODAN actor to serve as a conduit for funding opportunities for local-level open data initiatives in developing countries. GODAN may not have the resources to deliver these functions directly but should consider how to use its convening capacity to explore both the services available and required to continue to move the ODAN agenda forward. A strengthened brokerage function should also place greater emphasis on monitoring the collaborative initiatives that emerge under this mantle to continue to build the evidence base and identify areas or opportunities where further investment and support from GODAN could add value and create a whole that was more than the sum of its parts.

Annexes

1 Annexe 1: Literature Review

Open Data for Agriculture and Nutrition

*a literature review
and proposed conceptual framework*

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May 2020

1 Introduction

This paper reviews the existing literature on Open Data for Agriculture and Nutrition (ODAN). The review was commissioned as a background paper for a performance evaluation of the Global Open Data for Agriculture and Nutrition programme (GODAN). GODAN was established to help secure the potential development benefits of producing and using open data for agriculture and nutrition. GODAN's founding objectives include (a) **empowering the ecosystem** of organisations working on open data for agriculture and nutrition by working with policy-makers to provide an enabling environment and (b) **increasing the supply and use** of open data to stimulate innovation, equitable access, transparency and accountability, service delivery and economic growth (Carolan, 2015). These objectives inform the scope of this review.

This paper begins by first locating GODAN in the context of the wider open data movement. It reviews the literature on open data (OD), then open data for agriculture and nutrition (ODAN), before focusing in on GODAN specifically. The literature review was neither systematic nor exhaustive due to time and resource restrictions. The desk-based research was carried out during February and March of 2020 using an iterative process in which the focus and scope was adapted to reflect the emergent needs of the performance evaluation. Relevant literature was identified in consultation with domain experts, by using snowballing and reverse snowballing techniques, and using Google Scholar to successfully identify and review more than one hundred unique sources. The review identified significantly more existing literature on OD data than on ODAN and very little on GODAN specifically. The review found that the existing literature on GODAN is over-dependent on studies and reports produced by GODAN itself. The literature review produced a new conceptual framework for analysing open data initiatives, which helps to identify opportunities to improve access, effective use and equity of application. The framework can be readily applied to open data in domains other than agriculture and nutrition. The literature review identifies gaps in the existing research and makes recommendations for future ODAN policy and practice. These include the need to improve the participation of women, people living with disabilities and other marginalised groups in all aspects of open data for agriculture and nutrition.

The next section begins with some issues of definition before outlining the history and rationale of open data for development.

2 Open Data

Although there is no universally agreed definition, the Open Knowledge Foundation defines open data as “data that can be *freely accessed, used, modified, and shared by anyone for any purpose*”²³. In an increasingly digital world, the Open Definition²⁴ refers predominantly to digital data that is easy to access and free to download in a format readily processed on a computer and which is made available under an open source licence. To facilitate making digital data open the FAIR Data Principles²⁵ are a set of guidelines for making open data Findable, Accessible, Interoperable and Reusable to all stakeholders in the relevant ecosystem²⁶ (cited in Wilkinson et al., 2016). Pawelke *et al* (2017) are among those to argue that the binary categories of open and closed data do not reflect the reality that most data is neither fully open nor fully closed, and can be made to move along the continuum between the two. In this paper we use the Open Definition of open data.

The term open data was first used in 1995 by scientists who argued that the public interest in tacking climate and environmental change required institutions to open and share data to advance the public interest (Chignard, 2013). The open data movement is an alliance of diverse actors with a range of motivations but the shared goals of increasing the supply of open data, adoption of open data policies, and building capacity to enable the effective use of open data for social benefit. Advocates of open data have argued that we should move from a position where data is closed by default to a situation where it is open by default so that everyone is able to use it without permission, controls, or restrictions (ibid). The rationale behind open data includes the proposition that the opening up of data will lead to greater scrutiny of data, improve its quality, and enable its innovative use to create value for the public good (Davies, Walker, Rubinstein and Perini 2019).

Open Government Data

An initial target for the open data movement was to open *government* data. Government departments hold significant amounts of data that is ‘closed’ or not readily accessible (often not even to other ministries). This government data includes, but is not limited to, information on weather, land use, nutrition, healthcare, education, and economics. As government data is produced with public funds, members of the open data movement argued it should be made freely available to the public, for the public benefit. It was argued that some of the specific advantages of open data would be to increase transparency, enable accountability, and stimulate innovation and economic growth (ODI 2018). Where government data has been opened this has enabled the innovation of mobile apps and online platforms including ones that enable citizens to check the voting record of elected representatives²⁷, report problems to local government²⁸, live-track buses and trains²⁹, and check crop prices³⁰ at multiple markets in real time (Pawelke *et al*, 2017). Critical voices have cautioned that claims for the radical potential of open data often underplay the obduracy of political power and risk reproducing old inequalities (McGee and Edwards, 2016). This view is supported by the findings of Berdou and Lokers (2019) in their guidelines for the use of open nutritional data, which emphasise

²³ Open Definition is a project of the Open Knowledge Foundation <https://opendefinition.org/>

²⁴ <https://opendefinition.org/od/2.1/en/>

²⁵ <https://libereurope.eu/wp-content/uploads/2017/12/LIBER-FAIR-Data.pdf>

²⁶ The term *ecosystem* in this paper refers to a network of stakeholder organisations who are all involved in a product or service through either cooperation or competition, including producers, distributors, customers, regulators, government agencies, research institutes etc.

²⁷ <https://www.theyworkforyou.com/>

²⁸ <https://www.fixmystreet.com/>

²⁹ <https://tfl.gov.uk/modes/buses/live-bus-arrivals>

³⁰ <https://www.mfarm.co.ke/>

the importance of political context in limiting or enabling the impact of open data use in social change.

In 2007 advocates of open government data met and produced the Sebastopol Principles for Open Government Data, which argued that it should be complete, primary, timely, accessible, machine-processable, non-discriminatory, non-proprietary and license free³¹. Since 2011 when the Open Government Partnership³² was founded, 78 countries have signed up to a process where each member submits an action plan co-created with civil society that includes concrete commitments to enhance transparency, accountability and public participation in government (OGP 2018). However, commitment to gender equity remains a concern. The most recent Open Data for Development Report (IDRC 2019) despite 3,000 commitments made in country action plans less than 1% of countries included any gender commitments. The Open Government Partnership has since set an ambitious target of 30% gender-sensitive commitments by the end of 2020 (ibid).

Open Data Ecosystems

Open government data organisations are part of a wider global open data movement that requires coordination between a complex network of political, business, regulator, technical, practitioner, funder and research stakeholders (ODI, 2018). Together these organisations form the global open data ecosystem. Key coordinating initiatives at the global level include the Open Data for Development network (OD4D), the Open Data Charter, the Open Government Partnership (OGP), the Open Data Barometer, the Impact Map, the Open Data Leaders Network, and the Open Data Working Group (Davies *et al.*, 2019). In recent years, partly in an effort to become more demand-led and problem-oriented, the open data movement has shifted to be more focused around regional, thematic, and issue-oriented initiatives (Davies *et al.*, 2019). It can be useful to understand this emerging ecosystem using typologies of data sources, geography or thematic sector.

In addition to government data, open data is increasingly drawn from other data sources including private companies (e.g. satellite data), civil society organisations (e.g. funding data), academia (e.g. research data sets) and even 'citizen data' (including citizen science and crowdsourced data) (Pawelke *et al.*, 2017). This represents a shift away from open data being dependent primarily on open government data and requires a broader alignment of protocols and standards across diverse actors in the private sector, civil society, government (Davies and Perini, 2016; Davies *et al.*, 2019).

As well as global open data networks there are local, national and regional networks. Open data initiatives with a global remit include the Open Data for Development Network³³, the Global Partnership for Sustainable Development Data^[ODI] and the Open Data Institute^[ODI]. Examples of geographic open data networks include the African Open Data Network (AODN), Open Data Asia and the Iniciativa Latinoamericana por los Datos Abiertos (ILDA)³⁴.

Open data is now applied in a wide range of thematic sectors (Davies *et al.*, 2019) including organisations established to support the Open Government Partnership³⁵ (discussed above), the International Aid Transparency Initiative³⁶ (IATI) which focuses on opening data in the international

³¹ <https://opengovdata.org/>

³² <https://www.opengovpartnership.org>

³³ <https://www.od4d.net/>

³⁴ <https://www.od4d.net/regional-hubs.html>

³⁵ <https://www.opengovpartnership.org/>

³⁶ <https://iatistandard.org/en/>

development sector, and Publish What You Pay³⁷, which works to open data in the extractive industries sector. It is within this global open data ecosystem that GODAN is located as the Global Open Data for Agriculture and Nutrition programme. The next section will introduce the open data for agriculture and nutrition sector and present the rationale for GODAN's work.

3 GODAN

Agriculture and nutrition are two separate but inter-related sectors that have attracted the attention of the open data movement because of its development importance to rural livelihoods, health and well-being. Open data is especially challenging in the agriculture and nutrition sectors due to the extraordinary volume and diversity of actors in the **ODAN** ecosystem. *"In contrast to other industries, agriculture has a relatively broad spectrum of stakeholders. Agricultural producers range from part-time, small-scale farmers to high-tech multinational conglomerates, and supply chains begin in some of the world's most remote areas. 'Farm to fork' products go from being raw materials, through processing, trading, hedging and brokering to eventually make it to the customer's table. All of the stakeholders involved in these processes are potential producers as well as consumers of data"* (Allemang and Teegarden, 2017). The diversity of non-standard and non-interoperable data types and formats in the ODAN sector multiply the complexity of the challenge. GODAN's theory of change refers to this diversity describing the sector as composing *"an immensely complex system of actors from diverse fields, specialisations, jurisdiction and sectors of the economy acting individually and importantly, in concert"* (Carolan, 2017).

The Global Open Data for Agriculture and Nutrition programme was established in response to these challenges in 2013 to coordinate stakeholders and improve the application of open data in the sector. The GODAN vision statement reads: *"We are a group of actors working towards a world where the value chain for agriculture and nutrition is more efficient, innovative, equitable (e.g. by gender, socio-economic status) and accountable; from, for example greater yields and access to markets for farmers, through to more nutritious and safe food on plates. We believe that improving the open availability, use and enrichment of data, and meaningful engagement with stakeholders will enable this vision. We observe that the agriculture and food sector currently suffer from information asymmetries and closed data practices that limits progress, value generation and the fair distribution of resources"*.

To reverse these information asymmetries and contribute to more equitable outcomes GODAN focuses its activities on delivering a range of 'intermediate level impacts' that include improved interoperability, increased innovation, transparency and accountability, new business creation and improved service delivery. Also targeted are more accessible information products, data-driven decision-making, and *increased access to data by disadvantaged communities*. The GODAN vision also states, *"We will proactively seek to address gender balance in our engagement"*. Evidence of progress against GODAN objectives is reviewed in a later section but first, in order to situate ODAN in its broader context, the next section reviews the wider open data literature and builds a conceptual framework for analysing open data for agriculture and nutrition.

4 Barriers to Open Data Use

³⁷ <https://www.pwyp.org/>

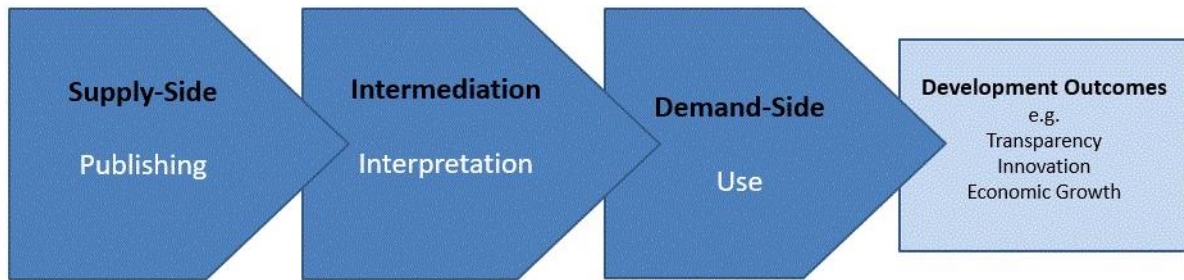
Above we defined open data as ‘data that can be **freely accessed, used, modified, and shared by anyone for any purpose**’. However not everyone has equal opportunity to freely access, use, modify or share open data. Individuals have different endowments, they operate in different political and regulatory contexts, and they experience a range of different barriers to accessing, using, modifying and sharing open data. This section reviews the existing literature to produce a conceptual framework for analysing the barriers that shape unequal access and use of open data.

Inequality of ability to make practical use of open data led early practitioners and researchers to pose critical questions including, ‘Open to whom?’ Gurstein (2011) was among those who argued that the publishing of open data was not in itself a development outcome and that it could lead to more inequality rather than less. In his paper *“Open data: Empowering the empowered or effective data use for everyone?”* Gurstein argued that the primary impact of publishing open data is to empower those who are already advantaged in terms of their access to the digital infrastructure, skills and capacity necessary to exploit it, leading to the further empowerment and enrichment of the already privileged. Rumbul (2015) has documented how urban men are over-represented among users of digital governance technologies, and Davies and Perini (2016) have noted that open data use is similarly skewed towards middle class and well-educated users. This echoes findings from a wider review of the digital development literature, which found that the use of digital technologies often *reflects, reproduces and amplifies* existing patterns of (dis)advantage along lines including gender, ethnicity and caste/class (Hernandez and Roberts, 2018). Gurstein (2013) argued that to ensure equitable access and effective use of open data there would need to be adequate attention paid to building awareness and digital literacy abilities among excluded communities. The next sections focus attention on how this can be achieved in practice.

Publishing, Interpretation and Use

Pawelke *et al* (2017) have argued that it is useful to break down open data into three related processes: (i) open data publishing (ii) intermediaries converting open data to actionable information and (iii) citizens, government officials, and other stakeholders using open data to further their goals (Pawelke *et al.*, 2017). **To some extent this mirrors Gurstein’s earlier (2011) three-part model** for analysing open data: (a) access, (b) interpretation, and (c) use. These tripartite approaches are illustrated in Figure 1. In Gurstein’s model the first ‘access’ phase is concerned with the supply-side issues necessary to make open data available in the first place. In this first phase decisions about publishing data using specific formats or standards and the language and location of publication can structure unequal access by making data only open to some people with specific linguistic or technical skills. Gurstein argued that a second phase of ‘interpretation’ was often necessary to help people make meaning of open data and clarify its relevance to their priorities and goals. Intermediaries are often necessary to make open data meaningful, accessible, and practically ‘actionable’ by end users. In the third phase, Gurstein focuses on the often neglected demand-side issues of people’s ability to make ‘effective use’ of open data, where effective use is defined as a person’s ability to apply open data to accomplish their development goals (Gurstein, 2003). Put otherwise, if open data efforts focus only on supply-side issues they risk benefitting already privileged groups so – if equitable outcomes are desired – it is essential to invest in demand side activities to build the capacity of less privileged groups to make effective use of open data.

Figure 6: Three Phases of Open Data (source: authors)

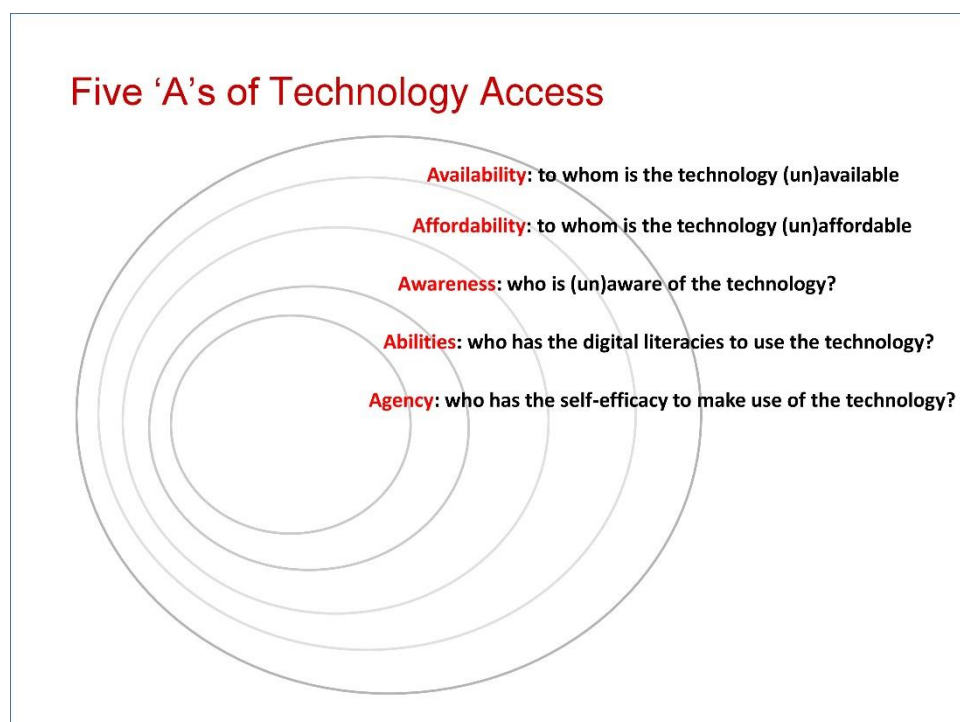


The analytical models of both Gurstein (2011) and Pawelke *et al* (2017) are valuable in making visible the three functional phases of making open data *available, actionable and applied*. Gurstein’s approach is additionally advantageous in asking the critical questions of ‘open to whom?’, ‘who benefits’ and ‘who is being left behind?’. This is important in any evaluation of whether open data is making processes more or less equitable (which is an element of the GODAN ToC).

Roberts and Hernandez (2019) built on Gurstein’s critical approach with their 5’A’s of Technology Access model. The 5’A’s provide a framework for analysing a range of barriers that structure (dis)advantage in technology access (Roberts and Hernandez, 2019). For example, in most countries there are individuals who live in rural or remote areas where there is no **availability** of cellular or broadband connectivity, so access is practically impossible. However, even where a technology is available there usually exists a smaller group for whom **affordability** is the key barrier to access. A person with little or no disposable income is less able to afford internet connectivity than a relatively wealthy neighbour. Among those for whom the internet is both available and affordable, a lack of **awareness** can be a third barrier to access. Awareness raising activities are generally necessary to create visibility of a new open data service as well as its practical relevance to peoples’ lives and goals. Even when awareness exists a lack of **abilities** such as digital literacy skills may be a barrier to access. Finally, even for those with the necessary availability, affordability, awareness and abilities powerful social norms and internalised powerlessness can result in individuals lacking the **agency** or confidence to make effective use of a technology due to limiting social norms or values. For example, in some places young woman are socialised to believe that using mobile phones is inappropriate for respectable women or that the internet is only suitable for male / upper caste / university educated people. Agency is the capacity to act in pursuit of one’s goals (Sen, 1999) and empowerment can be measured as increases in agency (Ibrahim and Alkire, 2007). Open data organisations often aim to increase the supply and effective use of open data so that actors are empowered to achieve their goals. From this perspective the open data movement is centrally about enhancing the agency of individuals or groups. This requires more than the supply-side provision of data and must include the demand-side increase of agency if the use of open data is to avoid (re)producing existing (dis)advantage.

The 5’A’s are one system for diagnosing which structural barriers are limiting access and effective use of a technology. They are practical tools for thinking through what interventions will be needed to overcome existing barriers. As depicted below, the 5’A’s can be conceived of as a series of concentric barriers to technology access and use (Roberts and Hernandez, 2019).

Figure 7: Five 'A's of Technology Access (Roberts and Hernandez, 2019)



Schematically we find it useful to overlay the barriers of the 5'A's onto the three-part process model in order to foreground how different barriers to technology access are encountered at different points in the open data process.

The barriers of **availability** and **affordability** relate primarily (though not exclusively) to the **supply-side** functions of open data organisations. This includes work to increase the supply of open data by working with governments to make their data open, interoperable, machine readable etc. By getting data suppliers to make their data freely available in ways that conform to FAIR principles, open data organisations aim to reduce the cost barriers to open data access.

A large part of the burden of **awareness-raising** falls to **intermediary** organisations in the open data ecosystem. This work includes making the existence of open data known, helping groups interpret the relevance of open data to the goals of specific groups, and creating translations and visualisation of open data to make it actionable. This need for intermediaries to make open data actionable raises the critical question of 'Open to Whom?' and the wider issues of **accessibility**, which might be considered a sixth 'A'. If open data is to be accessible to indigenous people, it must be published in their languages. To be relevant to all part of the community open data must provide content on subjects that are the priorities and goals of, for example, black and minority ethnic groups. And if open data is to be used by the 15% of the population that are visually impaired or those that are print illiterate it must be published with their accessibility in mind. Leaving no one behind in the open data movement will require an increasing focus on accessibility if existing exclusions and disadvantages are not to be reinforced by open data.

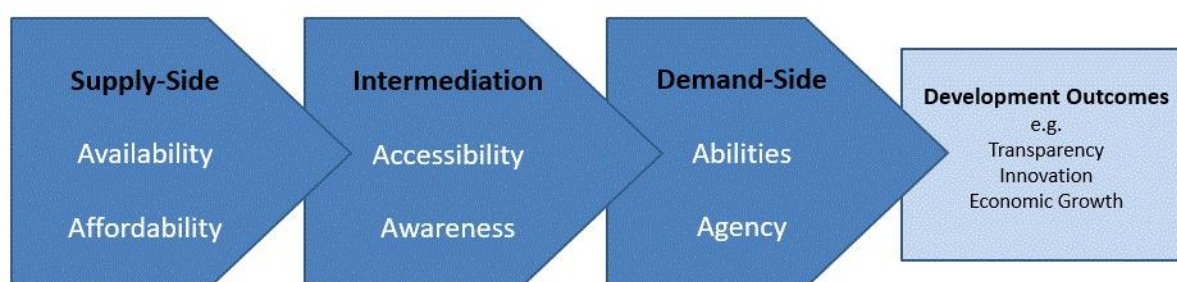
Building the **abilities** and **agency** of marginalised actors in the open data ecosystem is core to activities on the **demand-side**. The two are often linked because building people's practical skills and competencies is one effective way to boost their self-efficacy and sense of agency (Bandura, 1995). If the efforts of the open data movement were to end with the successful production of actionable

open data, we would expect the majority of the benefits to accrue to organisations already privileged with the most capital, expertise and technical capabilities (Gurstein, 2011). Open Data initiatives can avoid the risk of reflecting, reproducing and amplifying existing (dis)advantage by including measures to increase the availability of affordable data and the awareness, abilities and agency of under-represented and marginalised groups to make effective use of open data.

The 6 ‘A’s of Open Data for Development

The next sections review the open data literature through the conceptual lens developed above and illustrated below in Figure 3.

Figure 8: Three Phases of Open Data and Barriers to Access - the 6 ‘A’s (source: authors)



Availability: Increasing the supply-side availability of open data is a stated objective of many organisations in the open data movement including GODAN. Obstacles to increasing the availability of open data can be political, economic, social or technical and will vary dynamically over time and space. **Barriers may include a lack of political will, the expense of migrating to open data, the inertia of entrenched operating practices or the clash of incompatible file formats.** These situated political, economic, social and technical (PEST) factors are ‘key not only in understanding how open data influences change but also with regard to understanding barriers and opportunities that characterise the landscape’ (Lokers et al., 2019: 5–6).

In some I the political will may not exist to publish data to combat government corruption. Research by the Web Foundation (2017; 18) found that “*Open data portals do not contain the data people really want (e.g. data on budget, spending, contracting and company registers). These datasets tend to be highly opaque and are often the least open*”. In countries such as Ethiopia, a lack of political will to open government data can be combined with poor internet infrastructure and a tendency of government to frequently shutdown the internet for political reasons³⁸. However, sometimes there is simply no availability of data to open (e.g. no land title data exists in any format for a region). It is important to recognise that availability is not binary; sometimes it is available but in low quality: one of the Philippines’ foremost open data professionals quipped that the very slow connection speeds available at his home meant that he has plenty of time to go and boil his rice while waiting for a single dataset to download (Roberts and Hernandez, 2017).

Affordability: Digital devices and data connectivity come at a cost. The process of downloading, processing and analysing data carries financial, time and opportunity costs. The cost of computers, internet connectivity, and the time of data analysts and staff mean that different organisations have

³⁸ <https://netblocks.org/reports/ethiopia-internet-shutdown-continues-following-reported-coup-attempt-xAG4DmBz>

different capacity to acquire, analyse, and apply open data. Affordability issues create inequities between different governments, between corporations and citizens, and between genders. Governments may find it unaffordable to reorganise data collection, update storage and sharing protocols, or to properly maintain and keep open data portals up to date (Davies *et al.*, 2019). Multi-national companies are less likely to experience affordability barriers when compared to small businesses or civil society organisations. Women's organisations may lack the necessary resources to play an active role in the open data ecosystem or to make effective use of open data in their organisations (Feminist Open Government, 2019). Developing open data skills and building influence within the open data movement requires the expenditure of significant amounts of 'free time', a resource that women lack relative to men due to the unequal burden of childcare, cooking and cleaning (Brandusescu and Nwakanma, 2019; Feminist Open Government, 2019).

Accessibility: Intermediary organisations fulfil multiple roles in the open data movement, including help with the interpretation and translation of open data into actionable formats readily accessible by users. Research by the Web Foundation (2017; 12) found that much of the data that is made open is only available in inaccessible formats, with only "7% of government datasets across 115 countries meet all requirements to be considered open data". In other cases open data may exist in accessible technical formats but not in indigenous languages, may lack locally-relevant content, or be produced in formats that are not accessible to people with visual impairments or by those who are print illiterate. Ding *et al* (2014) carried out a survey of open accessibility data which could benefit people with accessibility needs but such work remains peripheral to the mainstream to date.

Awareness: In order for data to be useful, potential users need to be aware of its existence, its importance and potential applications, and its relevance to their goals and priorities. Zuiderwijk *et al.*, (2015) found that lack of awareness about the usefulness and applicability of open data to improve work and life results in available open data being underutilised. The most recent report on 'The State of Open Data' report (Figshare and Digital Science, 2019) found that awareness of open data is still low even within academic circles and frequent data sharers, with the majority unaware of open data principles or licencing requirements. Low levels of awareness also exist within civil society with the Feminist Open Government (2019) study finding that women's organisations tend to lack awareness of open data. Organisations advocating the increased supply and use of open data often dedicate significant resources to raising awareness both on the supply-side encouraging the publication of open data and on the demand-side encouraging use. Sometimes those with awareness of the value of open data (e.g. librarians) lack the social power to leverage change. Increasing the agency of open data 'champions' to enhance effective use has been identified as a potential method to increase awareness (Zuiderwijk *et al.*, 2015).

Ability: Demand-side interventions in open data often include efforts to build skills to access and apply online datasets to meet specific goals. The abilities required are most often a combination of digital literacies and sector-specific expertise, neither of which are evenly spread across populations. While government and corporations may be able to purchase these skillsets, they can present a formidable barrier to small businesses, civil society organisations, or disadvantaged individuals wishing to use open data. Open datasets can vary in quality and low levels of user-friendly design have also been identified as a barrier to open data uptake (Zuiderwijk *et al.*, 2015). Achieving increased supply and use of open data requires new abilities among open data actors not just to access data but to develop new services, tools and business models (Berdou *et al.*, 2017). These ability barriers have resulted in a role for intermediary organisations to help interpret and make open data actionable by those who do

not have specialist technical or sectoral abilities (Gurstein, 2011; Zuiderwijk *et al.*, 2015; Davies and Perini, 2016; Lokers *et al.*, 2019; Berdou and Ayala, 2019).

Agency: Increasing the supply of *material* resources like data, devices and digital skills can help build a person's agency but agency is also importantly about a person's *psychological* resources including self-confidence and self-efficacy (Roberts, 2015). Two people with precisely the same measurable skills and resources may have very different beliefs about their ability to accomplish goals (Bandura, 1995). Bandura's body of research establish that a person with an elevated sense of their own ability and entitlement is more likely to succeed than an equally talented or able person who has a low sense of their ability and entitlement. This is true for members of all demographic groups but when interventions aim to improve equity of outcomes it is especially important for groups who have experienced persistent disadvantage or deprivation and who as a result have revised downwards their expectations and beliefs about what they are capable of achieving or deserve (Sen, 1999).

5 Barriers to Open Data

Gender inequalities pervade the technology sector in general and the open data movement is no exception. Data is gender biased (Criado-Perez, 2019) is rarely gender-disaggregated (Buvinic *et al.*, 2014) and large gender data gaps exist. Brandusescu and Nwakanma (2019:194) argue convincingly that *"as long as gender data gaps persist, any open datasets created based on raw data that does not adequately represent women will have limited potential to support transformative action on gender equity"*. Women are also underrepresented as users of the internet, and of open data in particular. Web Foundation (2017) research found that women are 20% less likely to use the internet to seek out information; less likely to be consulted on the design of data policies and initiatives; and under-represented among the ranks of data scientists. Multiple regression analyses from a study of open data usage in India showed that women are less likely to use open data sets than men and that men are more likely to use open data for professional purposes (Saxena and Janssen, 2017).

Women are under-represented as participants and employees in the open data movement, especially in senior positions (Brandusescu and Nwakanma, 2019) just as they are in science, technology, engineering and mathematics (STEM) in general (UNESCO, 2017). In the open data sector women are less likely to be represented in *"leadership in open data organisations, leading to a gender bias in data collection and publication"* (Brandusescu and Nwakanma, 2019: 291). These gendered social norms are internalised and can negatively affect women's agency to enter and play active roles as producers and users of technology.

Not all women are equally (dis)advantaged. Women from black and minority ethnic communities and women living with disabilities experience overlapping forms of disadvantage (Crenshaw, 1989). In their study the Web Foundation (2017: 20) noted that *"Groups with lower income and/or less political power tend to be excluded from consultation and decision-making processes around open data, frequently lack internet connectivity and the skills to access open data, and may also be less visible in the data in itself"* The Web Foundation (*ibid*) also found that *'Few open data initiatives actively promote inclusion and equity'*. As a result, unless specific and sustained measures are taken, the open data sector risks reproducing and potentially amplifying existing gender and intersectional inequalities. Two recent studies have argued that that gender equity needs to be the new frontier in open data (Brandusescu and Nwakanma, 2019; Davies *et al.*, 2019).

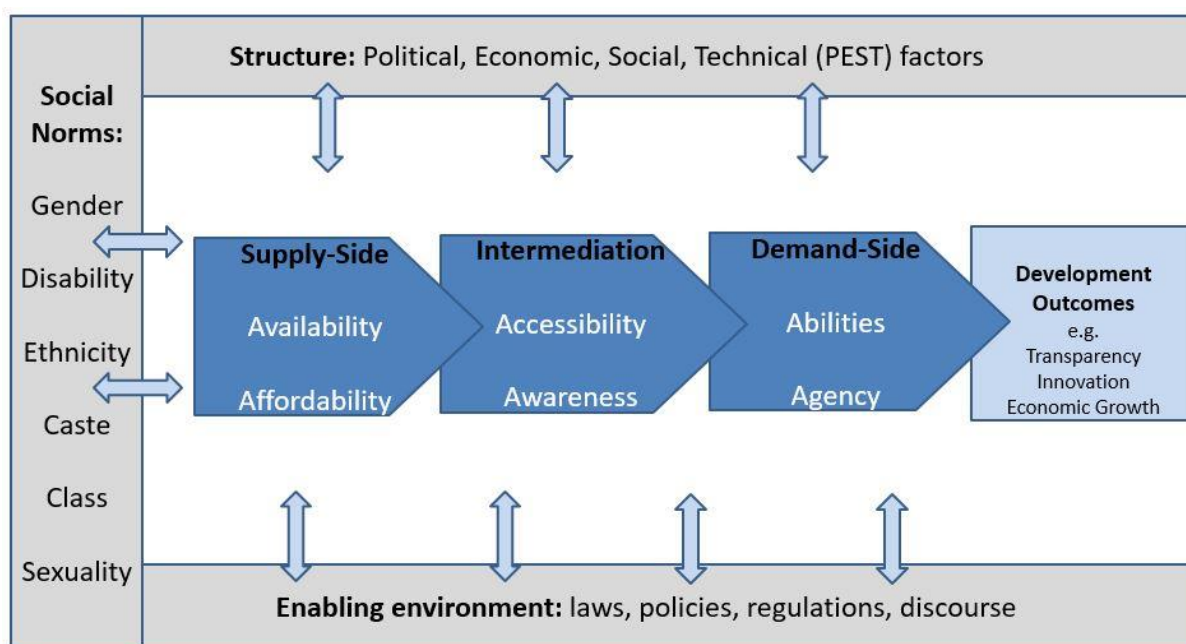
Research has shown that women and girls are significantly less likely to have access to digital devices and internet connectivity and more likely to only have shared access than boys and men (Davies *et al.*, 2019; Girl Effect, 2018). Moreover, women in the global south tend to only have access to the Internet through mobile phones, but most open data applications and tools are not optimised for mobile phones (Brandusescu and Nwakanma, 2019). Women are more likely to lack the capacity to contribute to and use data (Brandusescu and Nwakanma, 2019). We know that **women** are under-represented in Open Government Partnership action plan consultations and that gender considerations rarely feature in national action plan commitments (Feminist Open Government 2019). As a result issues which women find particularly important, including economic empowerment, political leadership, and violence against women remain largely absent from Open Government Partnership action plans. (Feminist Open Government, 2019: 9).

These gender barriers to open data are particularly relevant for the purposes of this literature review as the GODAN vision statement specifically aims at agriculture and nutrition systems that are more equitable (by gender and socio-economic status) and GODAN's theory of change commits to proactively seek to address gender imbalance in its engagements (Carolan, 2015).

Power Structures

The above sections reviewed a range of conceptual approaches to analysing open data and used them to apply a critical lens to the existing open data literature. We found the three phase approaches of Pawelke *et al* (2017) and Gurstein (2011) to be useful as a way of understanding **supply-side** activities to increase the publication of open data, the **intermediation** of organisations to make open data actionable, and **demand-side** activities to increase the effective use and application of open data. This three-part approach was complemented by the 5'A's of technology access and required the addition of a sixth 'A' to enable open data accessibility by those with disabilities or speaking indigenous languages. Finally, following McGee and Edwards (2016) and Lokers *et al* (2019) we found it necessary to situate the open data value chain within the wider context of political, economic, social and technical factors that shape open data for development, and which open data for development initiatives often seek to shape (hence the two-way arrows below). Together these elements provide us with a conceptual framework for analysing the structural context of technology access (SCOT Framework), which is illustrated in Figure 4, below.

Figure 9: Structural Context of Digital Development (SCOT) Framework (source: authors)



We find this approach particularly appropriate for evaluating the performance of GODAN because its logframe and theory of change speak directly of ‘increasing the supply’ of open data, **empowering ecosystem intermediaries**, and ‘increasing the use’ of open data. GODAN objectives also explicitly include making open data more **available** and **affordable** and their activities specifically include raising **awareness** and enhancing **abilities**.

The next sections use this framework to review the literature on open data for agriculture and nutrition (ODAN) as well as GODAN more specifically.

6 Open Agriculture and Nutrition Data

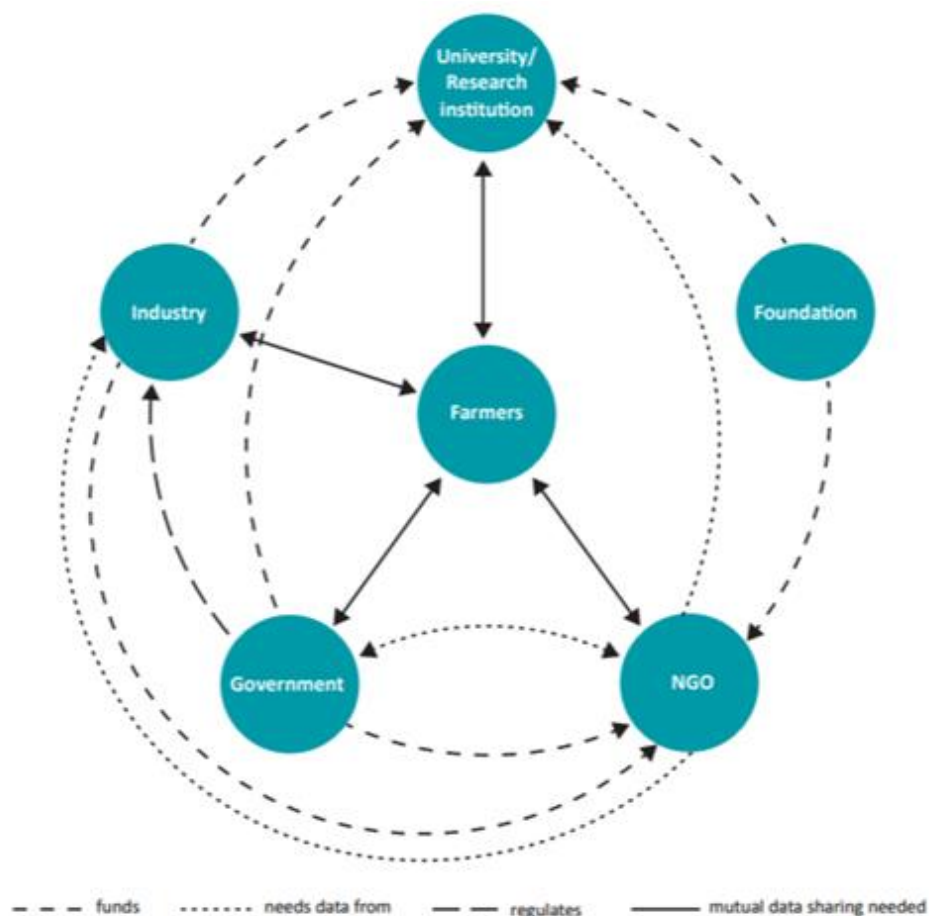
Governments, agribusiness, universities and individual farmers are increasingly producers and consumers of data to improve yields, innovation and income. Open data holds significant potential for improved environmental, economic and development outcomes. However, asymmetries of power, information and resources present potential barriers to equitable outcomes. A number of organisations have emerged to strengthen the ODAN ecosystem and increase the supply of open data for development.

The agriculture and nutrition sector present specific challenges for the promotion of open data due to its stakeholder scale and complexity and its overlapping sectors. The open data for agriculture and nutrition ecosystem is composed of organisations of farmers, private sector companies, civil society organisations, governments, and multi-lateral agencies. It includes many specialist groups including agronomists, meteorologists, data-scientists, lawyers, land-rights activists, and academics. GODAN is one of several global networks that advocate for open data for agriculture or nutrition. The agricultural and nutrition sectors are composed of many inter-related sub-sectors and the sector inter-connects with many other sectors (e.g. food systems, ecology, nutrition, human health, the environment). To make matters even more complex, each related sector and sub-sector is composed

of value chains with many—sometimes thousands—of diverse internal (e.g. farmers, producer groups, input suppliers, traders, processors, exporters, etc) and external (e.g. regulators) stakeholders generating different data types, formats, and ontologies and who themselves have differing data needs (Musker *et al* 2019).

Key organisations in the open data for agriculture and nutrition ecosystem include: the Research Data Alliance (RDA)³⁹; the Global Forum for Agricultural Research⁴⁰; Global Partnership for Sustainable Development Data⁴¹; AgriCord⁴²; and Presidents United to Solve Hunger⁴³ (Schaap, Musker, Parr and Laperriere, 2019). Musker *et al.*, (2019) mapped the different kinds of actors relevant to open data in agriculture and nutrition and indicated their relationships to one another (see figure below).

Figure 10: Agricultural Open Data actors and their relationships (Schaap *et al.*, 2019)



³⁹ The Research Data Alliance has over 200 members and seeks ‘to promote good practice in the research domain’. The Research Data Alliance host the Agricultural Data Interest Group (IGAD)

⁴⁰ The Global Forum for Agricultural Research is an open and voluntary multi-stakeholder agri-food research and innovation forum with over 600 partner organisations

⁴¹ The Global Partnership for Sustainable Development Data is a multi-stakeholder network of more than 150 data champions harnessing the data revolution for sustainable development, including ODAN members including FAO and GODAN

⁴² AgriCord is a global alliance of over 200 farmer organisations from more than 50 developing countries part of the Farmers Fighting Poverty programme. Partners with CTA and others to provide support seeking to strengthen farmer organisation use of data and ICT

⁴³ Presidents United to Solve Hunger is a consortium of 110+ universities from around the world that have the collective mission to end hunger and poverty, both locally and globally. In partnership with GODAN, the consortium publishes tools and materials that help universities open up their data

Governments are key actors in the **supply side** of opening agriculture and nutrition data firstly because they have the power to increase the **availability** of open datasets such as meteorological, land registry, and nutrition data. The US and UK were early adopters of open data in agriculture. The availability of open weather data in the UK and US generated substantial innovation resulting in economic and social impact through the creation of a multi-million dollar industry of weather tools and information products. Availability of real-time open weather data has enabled some farmers to improve their yields (Mey, Berdou, Miguel Ayala and Lokers, 2019). GODAN has been active on the supply side encouraging government to publish open data sets. GODAN found that governments are often reluctant to open up agricultural and nutrition data for political reasons. For example, in Ethiopia the ability of private companies to develop applications and tools using weather data is limited by a law that states that only the government is allowed to broadcast localised weather information (Lokers *et al.*, 2019). Tanzania recently introduced and revoked a law that made it illegal for anyone to publish data that invalidates or questions government statistics (Lokers *et al* 2019). There may be economic reasons to keep land data sets closed in order make it easier to sell off plots of land to foreign investors (Mey *et al* 2018). 70% of land data is unregistered (Mey *et al* 2018). However, in many cases land data cannot be made open because land ownership has never been documented and the cost of land registry maintenance is **unaffordable** (Lokers *et al* 2019).

Governments are important not only as producers of their own data. They are also key because of their power to require private sector and academic actors to open their data (Schaap *et al* 2019). Governments can help provide an **enabling environment** for open agricultural data through the creation of **laws, policies and regulation** but also by leading a public discourse on the benefits of ODAN. GODAN has successfully leveraged this power by including national governments into the ODAN ecosystem. GODAN played a central role in facilitating the 2017 Nairobi Ministerial Conference on Global Open Data for Agriculture and Nutrition at which 15 African ministries signed a declaration of commitment to publish open data and to raise **awareness** around open data for agriculture and nutrition. The Nairobi Declaration has inspired Francophone countries to develop their own network, the Conference d’Afrique Francophone sur les Donnees Ouvertes (CAFDO)(Schaap *et al* 2019). GODAN has published a Guide to opening data for Agriculture to help other countries join the movement (Open Data Charter and GODAN, 2018). This is clear evidence of GODAN progress against its logframe objective “to **empower the ecosystem** by creating an overarching enabling environment for open data for agriculture and nutrition”.

Standard setting has been identified as essential **supply-side** activity to improve interoperability and so increase open data **availability** and use. The many sub-fields of agriculture and other related fields each have their own data standards. However, these standards tend to not be interoperable with one another making it difficult for users to combine datasets within and across value chains to garner insights (Schaap *et al* 2019). GODAN Action mapped agricultural standards and found a low level of interoperability (Schaap *et al* 2019). For example, GODAN has found that nutrition data is often labelled differently by different organisations using different categories for regions and sub-regions and different terms to describe nutritional status (Berdou and Lokers, 2019; Lokers *et al* 2019). GODAN Action found that only 56% of agri-food data standards are machine readable, just 21% are available under an open license, and 16% of them are not even available online (Pesce *et al* 2018; Schaap *et al* 2019). GODAN is actively working on this important supply-side issue seeking to increase the availability of open data by promoting open and interoperable standards through the VEST Registry in partnership with the Agricultural Information Management Standards (AIMS) initiative. The literature review was unable to identify evidence of the extent to which this has been accomplished or to what extent gains that have been made were attributable to GODAN activities.

Farmers are at the centre of the ODAN ecosystem, as illustrated above in Figure 5. This includes global agribusinesses down to individual smallholders. GODAN has multi-national agribusiness companies including Syngenta, among its members. A power imbalance exists between actors with regard to data **availability and affordability** (Ferris and Rahman 2017). Organisations are able to interpret and apply data for agriculture and nutrition in proportion to their capital, connectivity and capacity. This has led to new ethical concerns about who owns farm data and who profits from its aggregation and sale as well as concerns about the lack of transparency about how data is ultimately used by more powerful actors (Ferris and Rahman 2017). Given the profit motive of private companies, some of their datasets are seen as commercial assets and are thus not opened up even when they hold the potential to improve sustainable development outcomes (Schaap *et al* 2019). Although many agribusiness companies in the private sector lack transparency and have shown minimal interest in opening their data, some are beginning to see opening data as part of maintaining a 'license to operate'. Syngenta is one company that has made open data a centrepiece of its transparency strategy (Schaap *et al* 2019).

Farmers and farm machinery increasingly generate primary agricultural data which can potentially be used to improve yields and profits. Although this data may be open and freely available an **affordability** barrier often remains for smallholder farmers who often lack the means to collect or use the data. *"Financial cost [is] the most common challenge mentioned by GODAN partners when working towards open data"* (Musker, Tumeo, Schaap and Parr, 2018: 8). Private sector companies are less likely to face an affordability barrier than smallholders who may have to depend on **intermediaries** (Gurstein, 2011). Intermediary organisations from government, the private sector, universities, or NGOs have emerged to help farmers interpret and apply open data. Intermediaries 'develop portals, apps, and tools that allow farmers to benefit from data on a range of topics, such as weather, infestations, or soil quality, that would otherwise be unavailable to them' (Schaap *et al* 2019: 40). Intermediaries have also piloted accessibility solutions to overcome barriers of language and literacies. Communicating open data through Interactive Voice Response (IVR) has been proposed as a potential solution but has been found to be expensive for farmers and service providers (Ferris and Rahman 2017). Universities and academics are often intermediaries and play active roles producing open agriculture and nutrition data⁴⁴ or take part in data discovery networks like the Research Data Alliance (RDA) and the Interest group on Agricultural Data (IGAD) (Schaap *et al* 2019). Funders of agricultural research are increasingly requiring that data collected during projects they fund are made public including USAID and the Gates Foundation (Schaap *et al* 2019).

Ferris and Rahman (2017) found that farmers often lack **awareness** of open data and its potential benefits which limit its uptake once data is published openly. Lokers *et al* (2019) found that ODAN initiatives are often stymied by low levels of awareness and understanding about the existence of open data and its relevance for agriculture and nutrition. GODAN and intermediary ODAN organisations have had significant success in raising high-level awareness about the potential of open data for agriculture and nutrition. However, at the lower level of marginalised groups, the literature review was unable to find independent evidence of GODAN's intermediate-level objective of 'increasing access to open data in disadvantaged constituencies'. A Google Scholar search of articles with 'Open Data' and 'Agriculture' in the title returned only 49 results many of which were technical concept notes for proposed future open data solutions; about something other than open data; GODAN commissioned research, or reference to GODAN convened events or workshops. A search for published material with Open Data and Nutrition in the title returned only 20 results with similar drawbacks. This echoes Davies and Perini's (2017) findings about open data research more widely that although the literature is expanding there is very little sustained empirical work on the

⁴⁴ <https://www.godan.info/blog-posts/e-rosa-workshop-stakeholders-inform-ec-e-infra-open-science-agriculture>

intermediate outcomes or development impacts of open data. The open data for agriculture and nutrition research that does exist is focused primarily on supply-side potentials, problems and policy alternatives rather than evaluation of outcomes. This means that there is no substantial evidence base to support claims of the efficacy of open data for agriculture and nutrition pro-poor outcomes.

GODAN does publish its own series of 'impact narratives', which are very effective in communicating potential but which cannot be considered to be independent evidence of achievement against its intermediate high-level impacts. GODAN Action's nutrition impact narratives have shown how open data collated by **intermediaries** like the Global Nutrition Report could be **interpreted** and repurposed to fit regional and local needs through the African Nutrition Scorecard to support local **awareness** raising and advocacy for data based decision-making on policies, programmes, and targeted interventions that meet local demands (Lokers *et al.*, 2019). This outcome was the result of Global Nutrition Report shifting its focus from only producing a document with data inside of it, to becoming a 'living repository' and open data publisher by also making its metadata and data available openly.

GODAN Action's Open Land Data narratives illustrate how the **intermediary** organisation *Land Portal* was able to increase the quality, **accessibility**, interoperability and global visibility and use of data from Land Conflict Watch', a local data journalism project in India (Lokers *et al.*, 2019). Another land impact narrative published by GODAN Action illustrates how the intermediary organisation Open Development Cambodia was able to coordinate many actors from civil society collecting land data on land concessions to overcome issues of conflicting and inconsistent data through aggregating and cleaning data using Open Data Principles. Lokers *et al.*, (2019: 46) found that *"a unified basis and voice for the civil society, coupled with international media coverage and pressure, the government postponed the grant of land concessions to the private sector and hastened granting social land concessions to the poor"*.

Intermediary organisations often play a key role in helping to **interpret** and translate open data for agriculture and nutrition in various ways. The format in which open data is available is important in enabling effective use. Evidence from the real-time data for development field has shown that the likelihood of data usage is increased if it is shared in multiple formats tailored to the needs and **abilities** of different user groups (Barnett and Edwards 2014). Similar findings have been recorded in the open data for nutrition literature. Rather than over-reliance on digital formats - the African Scorecard on Nutrition found that **accessibility** was improved through the provision of hard-copy reports - synthesizing findings from open data may be more appropriate for some audiences (Lokers *et al.*, 2019).

GODAN's own research found that GODAN struggles to ensure that open data benefits farmers (Musker, Tumeo, Schaap and Parr, 2018). It is widely accepted that smallholder farmers tend to have relatively little capacity to exploit data and that the gap in **abilities and agency** are greater in low-income countries, in rural areas, and for women (Schaap *et al.*, 2019). This is particularly important in the areas of ODAN because making effective use of open data for agriculture and nutrition often requires domain specific expertise as well as digital and data literacies. For example, nutrition data includes scientific classifications and measurements that may not be in the general lexicon. Similarly, because weather data is technical and scientific in nature, using it in its raw form requires scientific meteorological expertise (Lokers *et al.*, 2019). We were unable to find independent research literature providing evidence of measurable progress in **demand-side** initiatives to build the **abilities and agency** of marginalised groups to make effective use of open data for agricultural and nutrition. GODAN and GODAN Action have run many training workshops and its online e-learning course has

had an impressive 4,448 participants⁴⁵. However, people who are able to participate in online training programmes have levels of connectivity, digital literacy and language skills that are not typical in marginalised communities.

Withholding **agency** from open data programmes can sometimes be strategic on the part of citizens. Even when data is open and available, some people or groups may have reason not to trust data coming from the government or see no probable benefit from providing it (Lokers *et al.*, 2019). Citizen's who mistrust powerful actors may withhold their agency and not engage in open data initiatives. For example, local land data holders may choose to keep their data closed if they fear that sharing it with government might lead to their land title being usurped rather than legitimised (Mey *et al.*, 2018). These fears are not unfounded. An early land registration digitization project in Bangalore found that digitisation efforts led to increased corruption and facilitated the acquisition of settled but unregistered land by powerful private companies (Benjamin, Bhuvanewari and Rajan, 2007) amplifying existing patterns of (dis)advantage.

The need to address **gender** inequalities and underrepresentation in open data has only recently begun to receive sufficient attention (Feminist Open Government, 2019). Berdou and Lokers (2019) found that nutritional data tends to not be sufficiently disaggregated by gender and other demographics making it more difficult to use data to advocate for the needs of women or develop policies and solutions that meet their needs. GODAN explicitly recognised the problems of gender data bias and the underrepresentation of women in ODAN when it wrote its gender mainstreaming policy in 2016⁴⁶. A number of commitments were made in the gender mainstreaming policy including building a diverse organisation and integrating gender issues into the Theory of Change and logframe. The Theory of Change and logframe have not been updated to reflect these commitments. Although the GODAN theory of change mentions gender equity as an objective, the logframe lists no gender activities and contains no pathway activities designed to redress the gender inequities that GODAN identified in its gender mainstreaming policy. Although GODAN has contributed significantly to the evidence base on ODAN, it has not focused research attention on the intersection between gender and open data for agriculture and nutrition.

GODAN is playing a significant role in producing an evidence base for open data in agriculture and nutrition. However, there is little independent empirical or peer-reviewed literature measuring the impact of ODAN activities. Most of the evidence that does exist was produced by GODAN itself (Berdou *et al.*, 2017; Berdou and Lokers, 2019; Mey *et al.*, 2019, 2018). Much of that evidence takes the form of narratives of initiatives by GODAN partners and often does not make clear what role—if any—GODAN itself played in convening, equipping or empowering the actors in the narratives. GODAN seems to play a key role but the existing literature does not detail its extent in a way that helps inform a performance review.

7 Conclusions and Future Issues in ODAN

Based on our review of the existing literature GODAN appears to have made substantial progress in achieving its **supply-side** objectives of expanding the quantity of organisations signed up to open data principles, and played a central role in securing the increase in **availability** of open data for agriculture and nutrition. GODAN has been successful in creating **high-level awareness** and policy commitments

⁴⁵ <https://f1000research.com/slides/8-550>

⁴⁶ https://www.godan.info/sites/default/files/old/2016/01/6.1-Gender_Mainstreaming.pdf

that have contributed to generating political will and an **enabling environment** for open data in agriculture and nutrition. GODAN has also produced or contributed to a range of highly valuable tools, policy engagements and research papers that have further advanced its objectives. GODAN members have played a range of influential **intermediary** roles raising **awareness** and assisting others to interpret and apply open data.

This success is inevitably uneven between countries as well as among stakeholders within countries. There is less evidence of **farm level awareness** especially among rural smallholders or of **demand-side** progress more generally. We found no evidence of sustained or systematic work to address the data **accessibility** needs of speakers of indigenous languages, print illiterate stakeholders or people living with disabilities. The GODAN theory of change and logframe lacks activities or a planned pathway of change to address gender diversity and the underrepresentation of women in open data.

The relative lack of attention to demand side factors including building the **abilities and agency** of marginalised groups carries an inherent risk of being able to meet GODAN operational objectives but with the unintended consequence that the organisations most empowered to exploit open data could be multinational agribusiness corporations.

The examples of Ethiopia and Tanzania and the USA illustrate the point that initial gains in securing high-level support for open data can also be reversed when more authoritarian governments close civic space. We were unable to access data on GODAN's membership in an open and accessible FAIR format. The GODAN website lists members' organisational links but this data is not readily downloadable or searchable.

Gaps in the existing research literature:

The majority of the research to date has been focused on supply-side mechanisms.

There has been no independent evaluation of who benefits or who is being left behind in open agriculture and nutrition data.

There has been no independent evaluation of gender or diversity in ODAN.

There has been no independent evaluation of the extent of the international development impacts of open data for agriculture and nutrition.

The existing research on open data for agriculture and nutrition is over-reliant on GODAN actors and open data insiders. This creates bias in the data.

Recommendations:

There is room to improve the gender balance in participation at ODAN training and events. GODAN should publish its gender monitoring data to demonstrate progress against its gender mainstreaming objectives and its vision of improving equity in the ODAN value chain.

GODAN should revise its theory of change and logframe to reflect its own gender mainstream policy and to include a clear pathway of activities to achieve gender equity and diversity.

GODAN's own membership list should be published in an open format that is **easy to access, free to download and** readily processed.

ODAN organisations should increase the emphasis paid to demand-side and intermediary initiatives in order to ensure that marginalised communities are not left behind in open data initiatives.

Funders should commission a strategic review of ODAN that encompasses the structural factors shaping the process of ODAN and which pays attention to intermediary and demand-side processes. The SCOT Framework may provide a useful starting point for such a review.

Research Commissioners should prioritise independent research that addresses the gaps identified in the existing literature to determine who benefits most from ODAN and who is being left behind in open agriculture and nutrition data.

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2 Annexe 2: Methodology

This section describes the evaluation design, data collection methods and tools and analytical processes employed by the evaluation team.

1. Evaluation Design

This evaluation utilized Contribution Analysis to assess the causal pathways and assumptions in the GODAN theory of change against the experiences of interview and survey respondents to assess the extent to which the activities and outputs have been effective in delivering GODAN's intended development outcomes and impacts. Given the global coverage of GODAN and the scope of the evaluation to include the GODAN Secretariat, GODAN Action and the GODAN network, the evaluation design aimed to strike the right balance between depth and breadth. Given time constraints, the evaluation prioritised depth and aimed to reconstruct partners' and members' experiences of working with GODAN to empower the open data ecosystem and their reflections on how this contributed to outcomes. Our approach also aimed to capture the breadth of stakeholders and experiences through as many diverse voices and experiences of changes in open data publishing and use and reflection on GODAN's role and contribution. Our data collection strategy was designed to enable triangulation of data from multiple primary and secondary sources – including interview and survey data, a review of GODAN's outputs and a broader review of the open data literature.

1.1 Evaluation Questions

In line with OECD-DAC standards, this evaluation questions specified in the TOR aimed to generate evidence measured against certain criteria - GODAN's relevance, effectiveness, efficiency, and sustainability - and test the assumptions that underpin and inform its support and engagement with the open data for agriculture and nutrition ecosystem in order to strengthen the future impact of GODAN's work. In addition, evaluation questions sought evidence of GODAN's contribution to its impact and equity.

The evaluation proposal and inception report reorganised the evaluation questions into five areas of inquiry and used this new structure as the framework to design our evaluation approach and identify the causal hypotheses that underpin our contribution analysis. We maintained attention to the evaluation criteria originally provided by the TOR throughout the framework. Table 1 maps the evaluation questions to the evaluation criteria and areas of inquiry.

Evaluation Questions	
Area of Inquiry 1: Improved open data architecture	
In what ways has open data architecture improved?	
EQ1 <i>RELEVANCE</i>	To what extent has GODAN improved the standards and interoperability for open data for agriculture and nutrition? (GODAN Action)
EQ4 <i>EFFECTIVENESS</i>	How much progress has been made towards an open agricultural and nutritional data ecosystem that facilitates increased supply and use of agricultural and nutritional open data for enhanced accountability and transparency, improved service delivery, innovation and economic growth? To what extent can this be attributed to GODAN Secretariat?

Area of Inquiry 2: Key stakeholders behaviour change around open data	
How and why are stakeholders producing, accessing and using open data?	
EQ2 <i>RELEVANCE</i>	Are key actors collaborating and committing to actions that will lead to a strengthening of the open agricultural and nutritional data ecosystem in developing countries as a result of GODAN? (GODAN Secretariat)
EQ5 <i>EFFECTIVENESS</i>	Have the tools, stories, case studies, and papers collected and compiled by GODAN Secretariat and GODAN Action equipped key actors to strengthen the open agricultural and nutritional data ecosystem in developing countries? Are there any specific examples of innovations which can be directly or indirectly attributable to the work of GODAN Secretariat and/or GODAN Action?
EQ6 <i>EFFECTIVENESS</i>	Have the capacity building activities of GODAN changed the way key actors use and publish open data for agriculture and nutrition? (GODAN Secretariat)
EQ7 <i>IMPACT</i>	Have the impact evaluations and impact methodology developed by GODAN Action influenced key actors to change the way they use and publish open data?
Area of Inquiry 3: GODAN governance	
What are the lessons learnt from GODAN governance and outputs?	
EQ3 <i>EFFICIENCY</i>	How effective were the governance structures for GODAN Secretariat (including the role of the Donor Steering Committee) as well as the split of work between GODAN Secretariat and GODAN Action? (Both)
EQ10 <i>SUSTAINABILITY</i>	What steps have been taken to create or integrate the work of GODAN Secretariat and GODAN Action with long-term processes, structures, norms and institutions for sustaining the investments made by DFID? (Both)
Area of Inquiry 4: GODAN's contribution to gender outcomes	
What are the causal pathways through which open data contributes to making people's lives better?	
EQ8 <i>EQUITY</i>	Has the programme had a beneficial impact on women in terms of providing a greater voice in decision making; greater choice in opportunities to benefit from paid work and to have sufficient income; and greater control over their income, productive assets and other resources? (Both)
Area of Inquiry 5: Framing of lessons learnt	
EQ11 <i>SUSTAINABILITY</i>	What specific lessons are there for other programmes in the following areas: <ul style="list-style-type: none"> - <i>Digital tools for agriculture</i>: What can development programmes focused on digital technology in agriculture learn from the experience of the GODAN programme (GODAN Action and GODAN Secretariat)? - <i>Open data for development</i>: What can development programmes focused on improving open data learn from the experience of the GODAN programme, especially DFID's planned follow-on support to the GODAN Secretariat? - <i>Influencing organisational and governmental policy on data</i>: What can development programmes focused on influencing organisational and governmental policy on data learn from the experience of GODAN Secretariat?

Table 11: Evaluation Questions

1.2 Contribution Analysis

The evaluation team used the theory-based approach contribution analysis (CA) as the overarching methodological principle to reconstruct the pathway from GODAN’s outputs and interventions to its intended outcomes. GODAN Secretariat and GODAN Action shared a theory of change and logframe and collectively aimed to build an open agricultural and nutritional data ecosystem that facilitates increased supply and use of agricultural and nutritional open data for enhanced accountability and transparency, improved service delivery, innovation and economic growth.

CA prioritises demonstrating and verifying contribution rather than proving that interventions cause outcomes and impact (Mayne, 2012, Mayne, 2008). To do this, CA identifies critical assumptions related with the intended causal chains in the theory of change, and designs data collection to assess these critical assumptions. Doing so, CA critically analyses whether and why the intended outcomes occurred (or why not), analysing the processes of change related with the activities of the intervention, as well as the role other GODAN partners and other stakeholders might have played in the observed outcomes to be in place (Mayne, 2008). Given the limited time scale of this evaluation the focus of this CA assessed whether and how GODAN contributed to a change in key stakeholders’ behaviours around open data which then resulted in then intended outcome of GODAN.

Table 2 outlines the six iterative steps in contribution analysis (Mayne, 2008). Each step contributes to the development of the contribution story and helps to strengthen the overall design. Each CA step is outlined in detail in the Inception Report.

- | |
|---|
| <ul style="list-style-type: none">• Step 1: Set out the attribution problem to be addressed• Step 2: Develop a theory of change with assumptions and risks• Step 3: Collect evidence to test / verify the theory of change• Step 4: Start to assemble the contribution story and challenges to it• Step 5: Seek out additional evidence to strengthen the contribution story• Step 6: Revise and strengthen the contribution story |
|---|

Table 2: Six steps of a contribution analysis

1.3 Reconstructed Theory of Change

The GODAN programme – operating as both GODAN Action and GODAN Secretariat – shared a narrative theory of change developed in 2016 that was not updated during the programme implementation period. In addition, GODAN Action developed multiple theories of change for its different thematic areas of work. The TOC provided in the evaluation TOR was developed as part of the DFID business case but had not been further developed and was not actively used by GODAN partners. As part of the evaluation design and inception process, the evaluation reconstructed a programme-wide conceptual model to highlight the key causal pathways to explain how and why GODAN outputs, activities and interventions contributed to the desired outcomes as outlined in the logframe and evaluation questions. This revised GODAN theory of change was validated and approved by the Evaluation Steering Group (ESG) including members of DFID, GODAN Secretariat and GODAN Action. The reconstructed theory of change is illustrated in Figure 1.

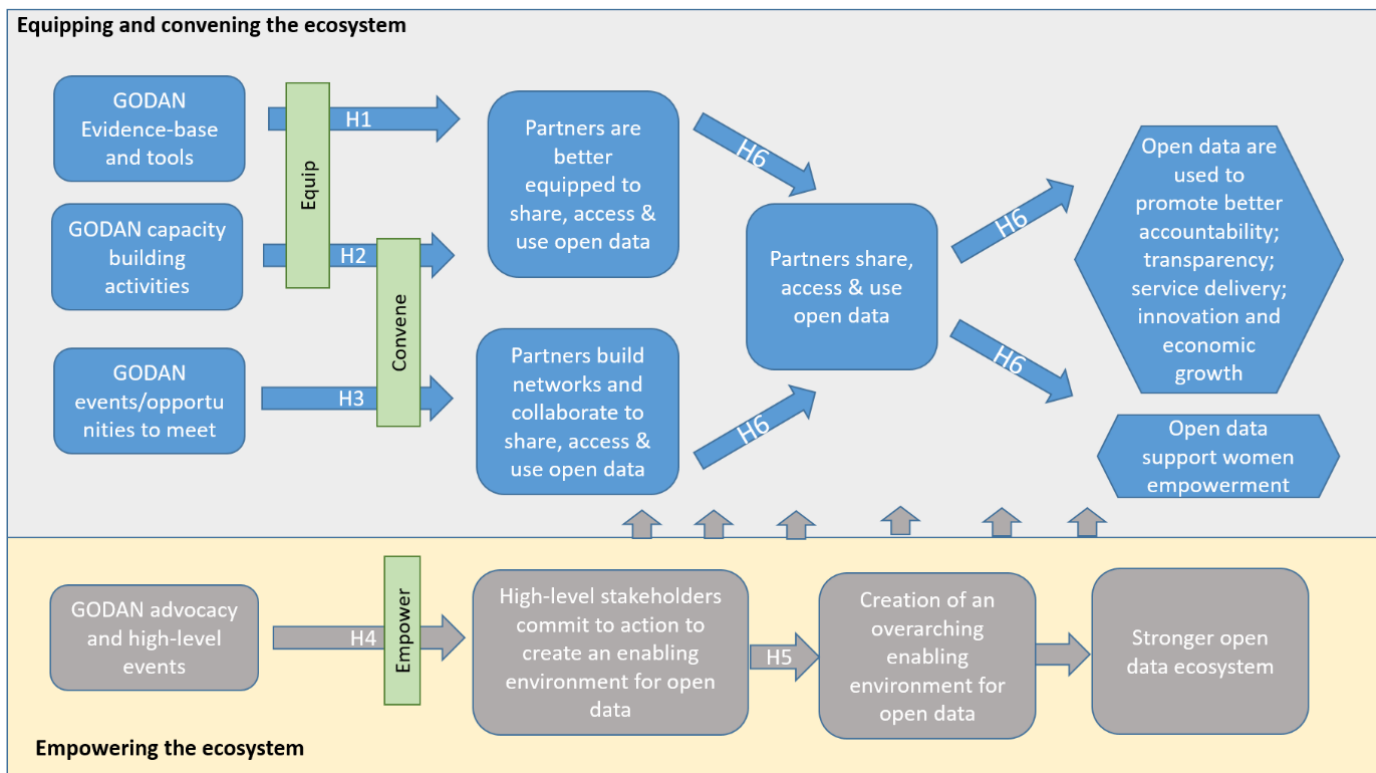


Figure 1: Reconstructed GODAN theory of change

1.4 Causal Hypotheses

The reconstructed theory of change included the construction of causal hypotheses against which the primary and secondary data was compared. The development of these hypotheses was informed by the evaluation criteria and evaluation questions provided in the evaluation TOR. The full hypotheses, evidence used to interrogate the hypotheses and evaluation questions which informed them can be found in Table 3.

Hypotheses	Assumption/risk/unintended consequences	Evidence to confirm hypotheses	Related evaluation questions
1. GODAN equipped its stakeholders to publish, access and use open data for agriculture and nutrition by <u>providing an evidence base (e.g. case studies, stories, papers) and tools (e.g. improved data standards, evaluation methodologies)</u> for open data activities.	Evidence-base and tools are effectively communicated; are clear and accessible to and perceived as useful by partners; partners/stakeholders lack knowledge/tools on how to share, access and use open data. Risks: Partners and stakeholders are not effectively reached with resources; they are too pre-occupied with other concerns to engage with the resources; hosted on numerous platforms so reach figures hard to aggregate.	SenseMaker survey on recent changes in access, use and sharing of open data and trigger for change In-depth interview: Perception of tools and evidence base provided by GODAN	EQ 1, EQ 4, EQ5, EQ 7

	<p>Unintended consequences: Partners and stakeholder misunderstand evidence base and tools and use it incorrectly (e.g. opening up sensitive private data).</p>	<p>GODAN programme data regarding downloads and use of evidence base and tools</p>	
<p>2. GODAN equipped its stakeholders to use and publish open data for agriculture and nutrition by <u>building their capacity</u> to address bottlenecks of open data use.</p>	<p>Partners and stakeholders are aware of capacity building activities, can access them and perceive them as useful; lack of capacity is a barrier to sharing, accessing and use of open data.</p> <p>Risk: Partners and stakeholders are not effectively reached with capacity building; they are too pre-occupied with other concerns to engage with the resources.</p>	<p>SenseMaker survey on recent changes in access, use and sharing of open data and trigger for change</p> <p>In-depth interview: Perception of capacity building activities</p> <p>GODAN programme data regarding participation in capacity building activities Participant feedback from capacity building activities (if available)</p>	EQ 4, EQ 6
<p>3. GODAN convened its partners and stakeholders by <u>creating space/opportunities/time to meet, collaborate and build networks</u> (e.g. in working groups, through the development of specific product, events, capacity building activities) to enable access, sharing and using of open data for agriculture and nutrition.</p>	<p>Partner and stakeholder have the time and capacity to make use of and sustain collaborative efforts for sharing and using open data; lack of trust in the quality of data does not pose a barrier to collaborating on sharing and using open data.</p> <p>Risk: Unbalanced power-relationships in networks threaten long-term sustainability.</p>	<p>SenseMaker survey on recent changes in access, use and sharing of open data and trigger for change; how GODAN could improve</p> <p>In-depth interviews: GODAN partners experiences of how GODAN</p>	EQ 2, EQ 6

		supported collaboration GODAN programme data regarding convening of events, data hacks and showcases and participant numbers	
4. GODAN's high-level events and advocacy <u>prompted high-level actors to take policy and political actions</u> to enable and promote sharing, publishing and using open data for agriculture and nutrition.	There is the political spaces/willingness to create an enabling environment for open data for agriculture and nutrition.	SenseMaker survey on recent changes in access, use and sharing of open data and trigger for change In-depth interview: Perceived role of GODAN in higher-level policy and political changes related to open data GODAN programme data regarding the organisation of high-level events/launch of high-level advocacy efforts	EQ 2
5. The policy and political actions (e.g. public commitments) that were triggered by GODAN empowered the ecosystem by <u>creating an overarching enabling environment</u> for open data for agriculture and nutrition.	Policy and political actions towards creating an enabling environment for open data are clear, sufficiently specific and perceived as binding by relevant actors; Combined actions from GODAN Secretariat and GODAN action contribute effectively to sustain the enabling environment. Risks: Barriers to open data use remain (e.g. lack of funds, data	SenseMaker survey on recent changes in access, use and sharing of open data and trigger for change In-depth interviews on perceived remaining	EQ 2, EQ 4, EQ 3, EQ 10

	ownership concerns) and prevent the translation of actions into practices. Push-back of important actors in ecosystem as they don't want to lose their authority.	<p>barriers to open data</p> <p>GODAN programme data regarding policy and political actions to enable sharing, accessing and using open data for agriculture and nutrition</p> <p>GODAN programme data disaggregated by gender regarding activities, funds, and innovations attended, secured, produced by women and men</p>	
6. The various GODAN activities and resources contributed to an increased supply and use of open data for agriculture and nutrition to improve accountability, transparency, service delivery, innovation and economic growth	Assumptions: unmet data needs are a limiting factor for accountability, service delivery etc.; there is capacity to communicate open data effectively to trigger actions; increased used of open data directly or indirectly benefits women.	<p>Sense maker survey on recent changes in the use of open data and reasons</p> <p>In-depth interviews: recent open data activities and whether they are attributable to GODAN</p> <p>GODAN programme data: Impact stories collected and compiled by GODAN partners.</p>	EQ 4, EQ 8, EQ 11

Table 3: Contribution analysis causal Hypotheses

2. Methods

This section explains the combination of methods used to assess GODAN's performance. The choice of methods used key informant interviews, SenseMaker survey, a literature review, and desk review was shaped by the goals of measuring performance and providing learning input to inform the next phase of the GODAN programme. Through a collaborative process amongst the evaluation team, data was triangulated and mapped against the contribution analysis hypotheses and evaluation questions. Thematic qualitative coding of different datasets supported triangulation across multiple sources to assess the evidence of contribution against each hypothesis.

2.1. Key informant interviews

A total of 49 people were interviewed. Of these 49, 19 were women while 11 interviewees were based in the global south. Given the limited evaluation timeframe, the evaluation team originally proposed interviewing 30 people in the inception report, however in light of the SenseMaker survey limitations (discussed in section 2.2) the team determined an additional nineteen interviewees would strengthen the evaluation. A list of interviewees can be found in annexe 4.

2.1.1 Sampling strategy

Interviewees were selected with careful consideration given to equity, gender, and geographic location to ensure that a wide variety of primary stakeholders were involved. Initially, a purposive sampling approach was applied in collaboration with the ESG with ten key informants proposed by the ESG interviewed during the inception phase. Following this first round of interviews, a snowball sampling approach was applied by asking key informants for further recommendations on who to speak to with a particular focus on identifying how GODAN influenced key actors' changes in behaviour around ODAN. When necessary, the evaluation team reached out to the ESG to request support with contact details. Finally, a purposive sample of key actors in ODAN who were *not* associated with GODAN was sought in order to learn both about the wider ecosystem and other actors who may have contributed to GODAN's goals. These interviewees were identified through the evaluation team's professional networks.

2.1.2 Data collection and analysis

Interviews were conducted by four members of the evaluation team via telephone or an online conferencing platform such as Skype. An interview protocol was developed during an internal team workshop based on the contribution analysis hypotheses and evaluation questions. The protocol retained the flexibility to pursue unpredicted lines of enquiry, while ensuring systematised consideration of emerging topics and insights. The protocol went through a round of testing and review during the inception phase. Interviews lasted approximately 30-45 minutes and the majority were recorded with permission granted prior to the start of the interview with the interviewee's informed consent. Detailed interview notes taken during interviews were reviewed and completed against recordings but interviews were not transcribed. Interview notes and recordings were uploaded to a secure internal server hosted by IDS.

Interviews were then team coded thematically using NVivo with key quotations were highlighted and catalogued. The NVivo codebook evolved during the data collection phase and was reviewed weekly by the evaluation team to incorporate emerging insights and ensure a shared understanding of the NVivo nodes and child nodes. Once the interviews were conducted and coding completed, the team met to discuss preliminary findings and drafted key takeaways from the interview process. One member of the evaluation team systematically analysed all coded excerpts from each of the 50

interviews and produced an overarching summary analysis of the interviews which informed the final evaluation report.

The interview question protocol mapped to the evaluation questions and areas of inquiry can be found in Table 4.

Key Informant Interview Protocol		
Interview Question	Evaluation Question	Causal Hypothesis
Could you briefly explain your involvement in open data and any connection to GODAN?		
Has your organisation been able to make better use of open data as a result of GODAN? <ul style="list-style-type: none"> If yes, then: Were there any particular GODAN resources than helped you do so (e.g. case studies, publications, tools, standards, evaluation methodologies)?" If yes, then: Were there any particular GODAN activities that helped you to make better use of open data (e.g. training, online resources, guidance)? In what ways (if any) has attendance at any meetings or event convened by GODAN been helpful? (e.g. networking, sharing knowledge, concrete collaborations) 	EQ1, EQ2, EQ4, EQ5, EQ6, EQ7	H1, H2, H3
To your knowledge did GODAN activity lead to any policy change or public commitments?	EQ2, EQ10	H4
In your judgement what have been the most significant achievements of GODAN to date?	EQ2, EQ3, EQ4, EQ8, EQ 10, EQ11	H5, H6
Who have been the main beneficiaries or GODAN's work? <ul style="list-style-type: none"> Is there any evidence that GODAN's provision, events or activities benefit more women than men (or vice versa)? 	EQ 2, EQ5, EQ6, EQ8	H6
Based on your own experience has GODAN led to any benefits such as greater transparency, accountability or service delivery? <ul style="list-style-type: none"> Can you provide an example? What barriers remain to the use of open agricultural and nutrition data, and what could GODAN do to help? 	EQ4, Eq10	H6
Are there any other open data initiatives that you are aware of contributed to building the open data ecosystem? If so, in what ways?	EQ4, EQ10	H5, H6
Is there anything we haven't asked about, that you think is important for us to consider?		
Is there anyone else we should speak to who is well placed to answer these questions?		

Table 4: Key Informant Interview Protocol

2.2 SenseMaker Survey

GODAN is a network of nearly 1,000 members scattered across the globe. The evaluation attempted to give a voice to as many GODAN network members as possible to capture a broad range of

perspectives and yield the greatest insights. In order to capture these voices, we deployed a unique and innovative methodology – SenseMaker which uses software to decipher patterns in large numbers of short narrative statements written by survey respondents themselves. The output of SenseMaker is numerical data backed up by explanatory narrative.

The SenseMaker survey was developed during the inception phase and was then piloted with members of the GODAN Secretariat and GODAN Action prior to launching the online public platform. Questions were revised according to the feedback received after testing.

2.2.1 Survey sample

Our aim was to sample as many people in the GODAN network as well as targeted the broader open data network as possible through a range of communication channels including personal and organisational email lists and social media. The evaluation received 60 completed SenseMaker surveys. While this number fell well under our target of 80-100, the respondents were based in a variety of locations, the majority in the Global South (63%). Respondents came from a total of 28 different countries with majority based in anglophone Africa (57%, n=34).

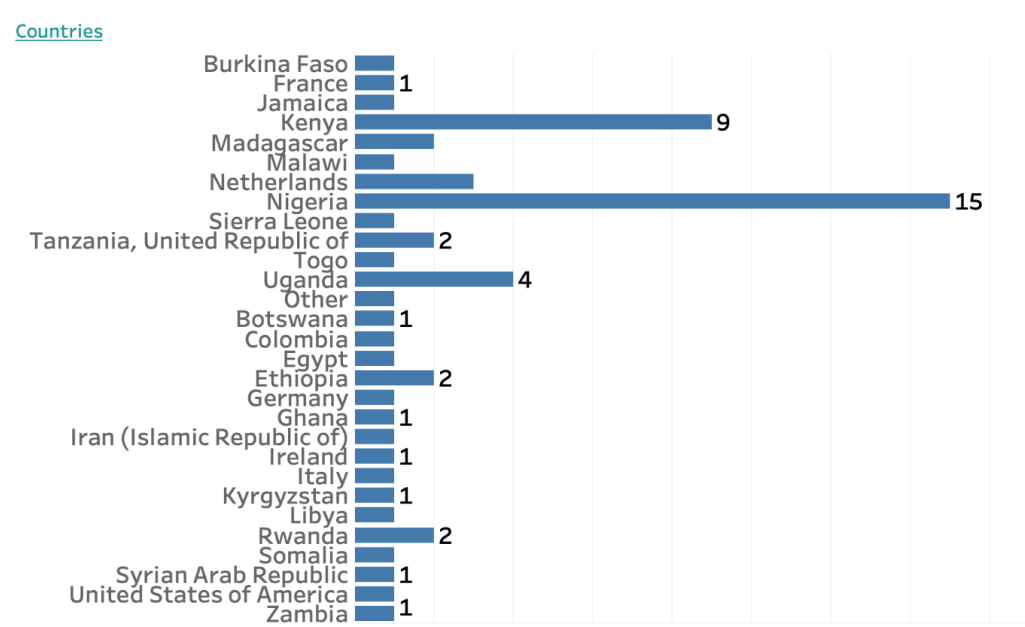


Figure 12 Respondent country

Respondents represented a broad range of professional profiles. 30% of the respondents identified as women which corresponds to GODAN’s participation rate.

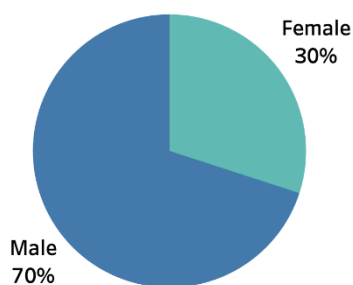


Figure 13 Respondent gender

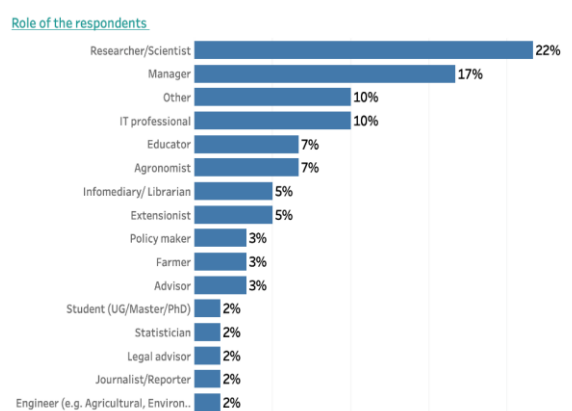


Figure 14 Respondent role

2.2.2 Survey response

A web link to the SenseMaker survey was developed and sent out to a broad range of audiences possible through a range of communication channels including personal and organisational email lists and social media. The following communication schedule showcases our repeated dissemination efforts:

Date	Dissemination
26 Feb	<ul style="list-style-type: none"> Survey launched on Twitter by GODAN Sec and WUR Earth Infomatics (a GODAN Action lead partner) and message sent to list of key stakeholders and multipliers asking for help with publicity Survey link mailed to GODAN Capacity Development Working Group members
27 Feb	<ul style="list-style-type: none"> Survey link mailed to GODAN Action online course alumni and link added to FAO AIMS
4 March	<ul style="list-style-type: none"> 1st follow up messages and tweets
9 March	<ul style="list-style-type: none"> Survey link mailed to GODAN members database, GODAN newsletter subscribers and data rights working group
16 March	<ul style="list-style-type: none"> Final reminders sent to all channels Survey link included in Land Portal newsletter and resent to Capacity Development Working Group and online course alumni
18 March	<ul style="list-style-type: none"> Survey Closed

The results of these efforts were 751 clicks tracked through a bit.url account indicating that we were able to reach a substantial number of people through our dissemination strategy however, unfortunately that reach did not convert into high survey completion rates with only 8% of people who clicked on the link completing the survey. The vast majority of respondents were members of the Capacity Development Working Group.

2.2.3 Survey composition

The narrative statements collected through the SenseMaker survey for this evaluation focused on key stakeholder's access and behaviour change around open data. Respondents were asked to write short narrative statements of up to 200 words using the following prompt:

‘Please share a story about how your access, use or sharing of agriculture or nutrition open data has significantly changed in the last 5 years (positively or negatively)? Describe what happened. Please include: What has changed, what triggered the change and how it affected your work’

A set of follow-up questions allowed respondents to interpret these narrative statements, which produced unique visual patterns, with quantitative analysis supported by explanatory narratives. Additionally, a short section of questions collected demographic characteristics about respondents. It took approximately ten minutes to complete the survey. The full questionnaire and a summary of survey results are available in annexe 3.

2.2.4 Survey analysis

The SenseMaker survey responses were uploaded directly to a proprietary SenseMaker platform called Analyst which automatically accumulates and sorts the received responses. The responses and the patterns which the responses created were reviewed by a member of the evaluation team in two rounds. In the first round, the analyst looked for general patterns or trends in the overall responses. In the second round, the analyst applied filters to the general patterns to decipher if certain subsets of the sample generated different patterns compared to the full sample. Other members of the evaluation team reviewed this preliminary pattern analysis to ensure analytical rigour. The SenseMaker data was then compared and contrasted with the findings from the interview dataset, paying particular attention to frequently coded themes that emerged from the interviews which were mirrored in the SenseMaker data.

2.3 Literature review

The literature review examined the state of the field of the open agricultural and nutritional data ecosystem in developing countries. It paid special attention to any evidence of how open data may reduce gender inequality in access to agricultural and nutritional information or enhance girls and women’s ability to have voice, choice, and control in their lives. The desk-based research was carried out during February and March of 2020 using an iterative process in which the focus and scope was adapted to reflect the emergent needs of the performance evaluation. Relevant literature was identified in consultation with domain experts, by using snowballing and reverse snowballing techniques, and using Google Scholar to successfully identify and review more than one hundred unique sources. The review identified significantly more existing literature on OD data than on ODAN and very little on GODAN specifically. The literature review produced a new conceptual framework for analysing open data initiatives, which helps to identify opportunities to improve access, effective use and equity of application. The framework, findings and recommendations which emerged from the literature review are shared in annex 1.

2.4 Desk review

A desk review of select GODAN material such as internal programme documentation, public material and programme deliverables was conducted, and relevant outputs were incorporated into the literature review. A preliminary library of GODAN outputs was shared by DFID at the beginning of the inception phase. Annual Reviews, website content, internal monitoring data and specific documents highlighted by interviewees were also reviewed. A list of key documents is available in annex 5. The evaluation also reviewed the uptake and use of a GODAN outputs as evidence as evidence of how they have been used by GODAN partners to support their capacity to engage with and use open data to inform our analysis of hypotheses 1 and 2. We utilized the internal reporting data to examine lines of inquiry related to gender and reach as well as using it provide supporting evidence to claims made during interviews or patterns observed in the SenseMaker data.

3. Ethics

3.1 Ethical Principles

In accordance with our full [Research Ethics Policy](#), the Institute of Development Studies is committed to promoting and upholding the highest ethical standards in our evaluation and research as part of our commitment to engaged excellence. Essential principles are that our work:

- avoids doing harm
- seeks informed and voluntary consent from those taking part
- respects confidentiality and anonymity
- results are shared
- where there is risk, takes adequate steps to minimise it

Additionally, this evaluation considered DFID's commitment to human rights-based approaches, particularly with regards to gender and equity. Furthermore, the evaluation took into consideration a [human rights-based approach to data](#) which highlight the principles of participation, data disaggregation, self-identification, transparency, privacy, and accountability.

3.2 Principles in Practice

In putting these principles into practice, IDS creates an environment in which researchers are supported to go beyond prudence and engage in active and accountable ethical deliberation on the basis of clear principles. This encompasses not only our engagement with research participants/subjects, co-researchers, partners/clients, students and funders, but also with those affected by our research results in our work to influence policy and practice:

- During this evaluation's proposal and inception phase, this evaluation underwent an ethical review in the form of a self-assessment that utilizes the [IDS Research Ethics Policy](#) as well as a [Research Ethics Checklist](#) in order to ensure the evaluation would avoid doing harm.
- The evaluation team sought verbal informed and voluntary consent from the key informant interviews and provided written information to SenseMaker survey respondents at the beginning of the survey. Respondents were encouraged to self-identify specific characteristics. Further detail on informed consent can be found in section 3.1.3.
- As a guiding principle, research was conducted with strict respect for principles of confidentiality, privacy, and transparency with adherence to these principles monitored throughout the project by the evaluation team leader. The evaluation team obtained informed voluntary consent and provided the option to select which parts of the interview were on or off the record. Only the evaluation team had access to raw interview or survey data which was stored on a secure server. The interview subject table provided in the final report was anonymized using unique identifier codes. Similarly, SenseMaker survey respondents provided with written information about confidentiality, the survey's purpose and how the data would be stored and used. The SenseMaker platform automatically anonymized the survey responses using unique identifier codes. Further detail can be found in section 3.3 and 3.4
- Our sampling strategy gave careful consideration given to equity, gender, and geographic region to ensure that a wide variety of primary stakeholders are involved. This is discussed in greater detail in the Methods section of this annex.
- The evaluation team has set in a place a use and influence plan to disseminate the evaluation results. Details of how evaluation results will be shared can be found in annex 6.

- The evaluation team paid close attention to creating, updating, and reviewing the risk registers included in the proposal and inception report. Descriptions of how specific risks were managed, such as the SenseMaker survey response rate, are discussed in the evaluation report, particularly in the Methods section of this annex.

3.3 Informed consent, confidentiality, and anonymity

Informed consent was sought from all informants. First, an introductory email was sent out to all potential respondents explaining the nature of the evaluation. Second, a project information script which was read aloud before each key informant interview was that covered the nature and purpose of the project, provisions for anonymity, confidentiality and data protection, the role and impartiality of the evaluators and any relevant permissions that have been granted or denied for the part of the research that concerns the interview. This script was also provided online prior to the beginning of the SenseMaker survey. The researcher discussed and agreed with the informant the level of confidentiality in the interview s/he wishes, deletion or inclusion in the list of interviewees, no contents of the interview associated with his/her name, or confidentiality for only some parts of the interview. As the interview progresses the informant could change their mind on what degree of confidentiality they wished and to specify parts of the interview for special treatment. These wishes were recorded in the interview transcript and carefully respected. Informants were not asked to sign a release form, however, because (i) such forms themselves are seen as threatening in some cultural and organisational contexts and (ii) the nature of the consent may shift during the interview process itself and be different for various parts of it.

The identity of the informant was critical to building an accurate understanding of the context, therefore it was necessary for the researchers to retain information about the identity of the informant associated with each interview. However, particular care to preserve anonymity was taken where informants participation in the research project may be identifiable and pose them a personal reputational or security risk, the information which they share is politically or commercially sensitive, or they explicitly requested that certain pieces of information not be included in the evaluation report. In these cases, the discussion of consent considered and agreed upon measures to mitigate any risk that might arise beyond the project itself and permissions for the publication of such data or the analysis drawn from it. If at any stage researchers considered that security of respondents may be in question, more sensitive questions would be introduced, interviews might be terminated, and if the situation became critical, researchers would consider invalidating surveys.

3.4 Data Protection

All primary data collected by evaluation team members was stored on the IDS SharePoint server and Cognitive Edge's SenseMaker, a private, secure proprietary platform. Primary data was only accessible to the IDS evaluation team. IDS follows robust procedures in terms of data collection, storage, protection, retention and destruction. The evaluation complied with both internal IDS data protection policies as well as external policies such as GDPR and consulted a data protection officer to monitor and advise on this. Data collected is stored on IDS certified equipment, including laptops which are encrypted, and password protected. The data itself was stored on IDS servers (physical and cloud-based) which are stored in the EU. All research that contains personal data for this project will adhere to the IDS Research Ethics Policy and the IDS Data Protection Policy. Final ownership and copyright of findings and evaluation products will be determined by DFID.

Reference List

- MAYNE, J. 2008. Contribution analysis: An approach to exploring cause and effect. *ILAC Brief*. London.
- MAYNE, J. 2012. Contribution analysis: Coming of age? *Evaluation*, 18, 270-280.

3 Annexe 3: SenseMaker Survey Analysis

1. SenseMaker Survey Results

MCQ 1: When changed happened

When did the change to your use of open data happen? (max. 1 answer)

73% of respondents indicated the change in open data use described in their story occurred within the past 6 months to 2 years. 27% of respondents described a change to open data use that occurred within the past 3-5 years.

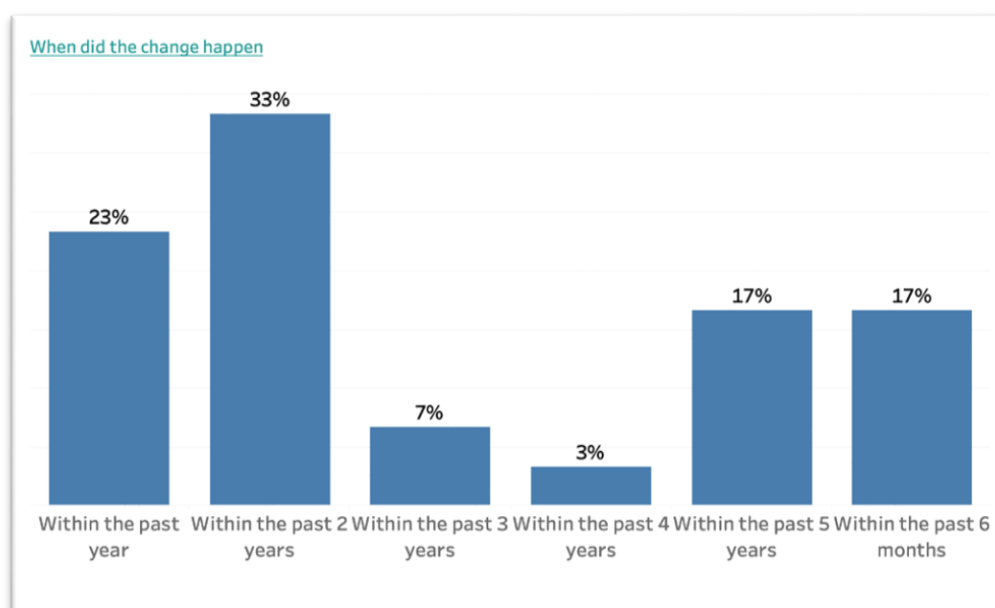


Figure 15: Time frame of stories of change

MCQ2: Influence resource

Which of the following resources most strongly influenced the change you described in your story? (max. 1 answer)

35% of respondents indicated that GODAN capacity building activities most strongly influenced the change described in their stories. These stories mostly described online courses made available by GODAN (for example, NarrID: 26, 56, 37). 48% listed resources GODAN produced such as papers, impact evaluation methods, or standards and interoperability tools as most strongly influencing the change they described in their stories.

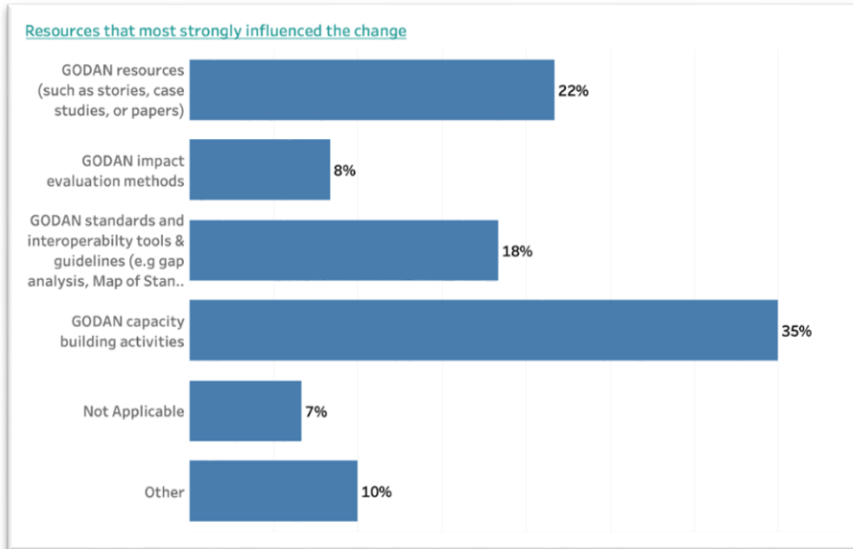


Figure 16: Resources that influenced the change in open data use

MCQ 3: Event activity influence

Which of the following events or activities contributed to or influenced the change you described in your story? (max. 2 answers)

Half of total responses selected GODAN training courses as an event or activity that influenced the change described in their story

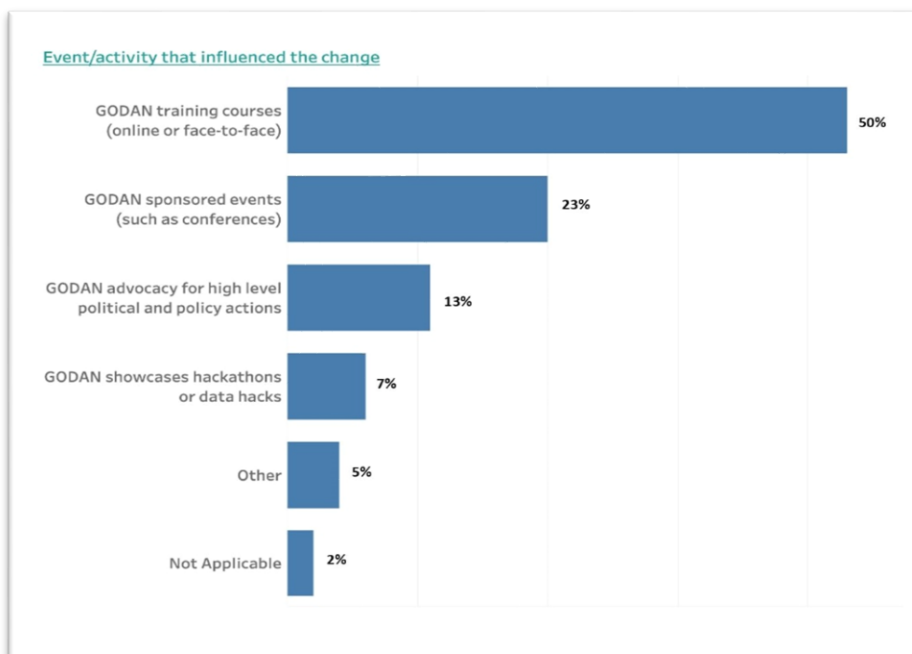


Figure 17: Event/activity that influenced change in open data use

MCQ 4: Change triggered by

The change in my story was triggered by: (max. 1 answer)

42% of respondents indicated that the change described in their story was triggered by work with one or more members of GODAN. However, when these stories were analysed, it was clear that respondents interpreted taking online courses as working in collaboration with other network members.

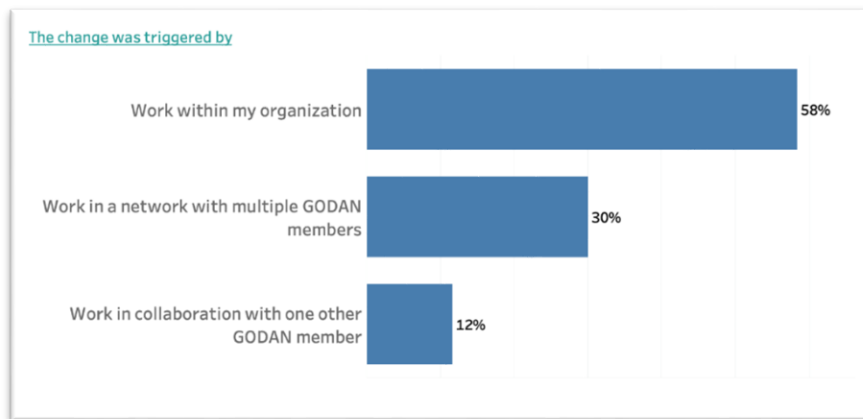


Figure 18: Trigger to change in open data use

MCQ 5: Change most aligned to

The change in the use of open data you described is most aligned to... (max. 2 answers)

Approximately 26% of responses selected indicated the change in the use of open data described in stories was aligned to improve data driven decision making. 21% (n=23) or responses indicated an increase in access to data as most aligning to their story.

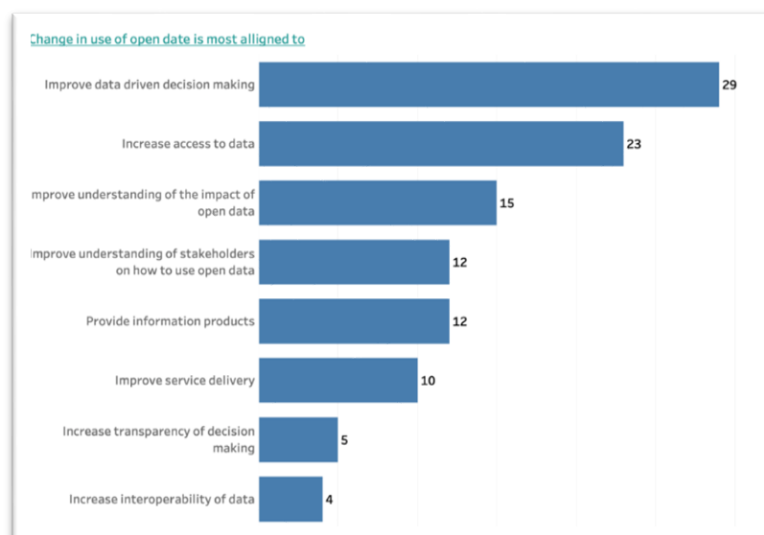


Figure 19: Drivers of change in Open Data use

MCQ 6: Level of engagement

How would you rate your level of engagement with the GODAN programme overall?

93% of respondents rated their level of engagement with GODAN as positive or very positive, with the remaining 7% selecting their engagement as 'neutral.'

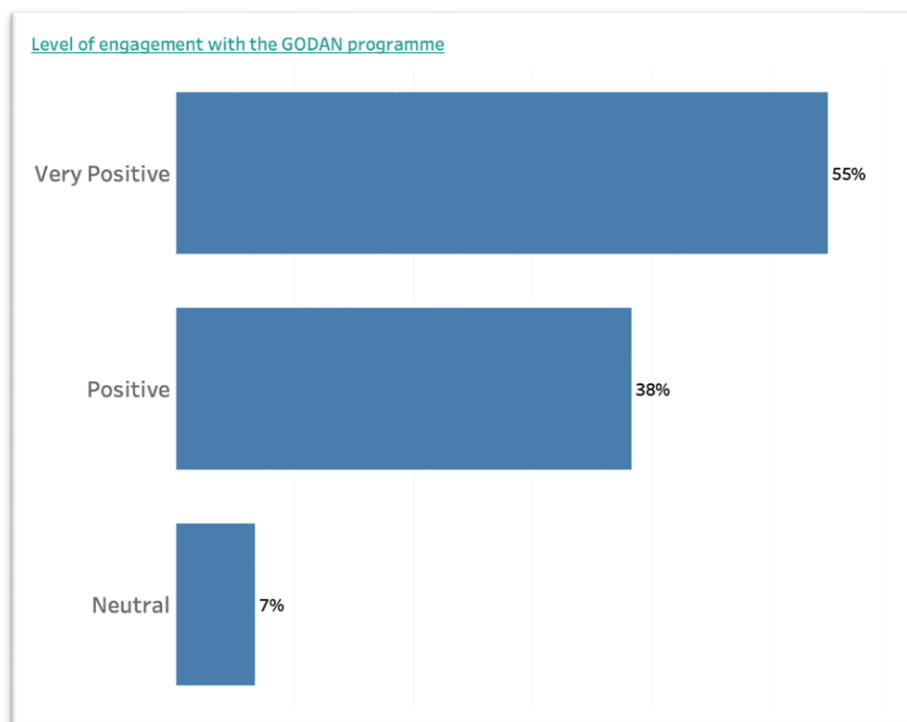


Figure 20: Rating of engagement with GODAN

Triad 7: Type of user

In your story would you describe yourself as...

44% of respondents strongly identified themselves as open data users. Other respondents classified themselves as a mix between and open data enabler or open data publisher. Only one respondent indicated they were from a farmer's organization/cooperative; this user reported very positive engagement with GODAN with a change that aligned to improve data driven decision-making describing:

'In the past 5 years I have benefited and been empowered by resources, information's and materials received from open data and GODAN. I cannot recount how many times I have used updates received in solving real life problems as an organization leader and as an agriculture resource person. GODAN have been resourceful in leading the way.' (NarrID 34)

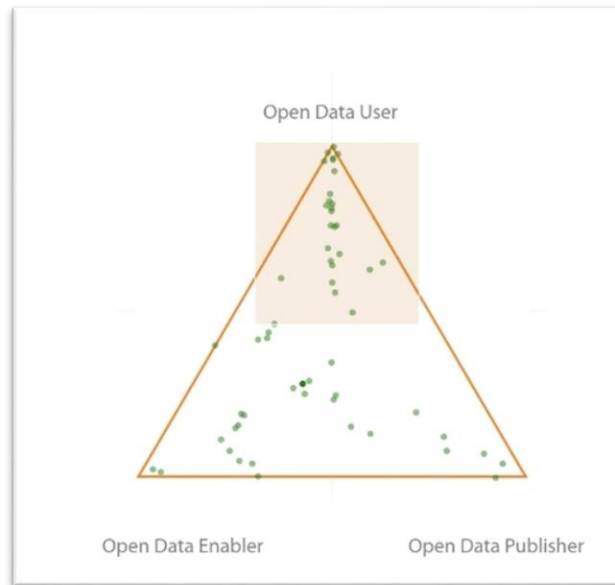


Figure 21: Respondent's open data role

Triad 8: Success factor

The key success factor in your story is a result of..

Of the 93% (n=56) of respondents who rated their engagement with GODAN as being 'very positive or positive', 41% believed that the key success factor in their story was related to a stronger open data ecosystem. Of the 7% (n=4) who rated their engagement with GODAN as neutral, the stories did not elaborate as to reasons why, but spoke more broadly of problems around open data. For example:

'Positive: Satellite data is now available under free and open license; more geospatial data from agricultural administrations in Europe becomes available as open data; Data platforms arise that facilitate integration of data from different sources. Negative: the hyped promise of data being valuable made many organisations either greedy or cautious, or both. The ongoing debate about alleged data ownership creates fuzz and mist, hampering the real debate about data value.' (NarrID 35)

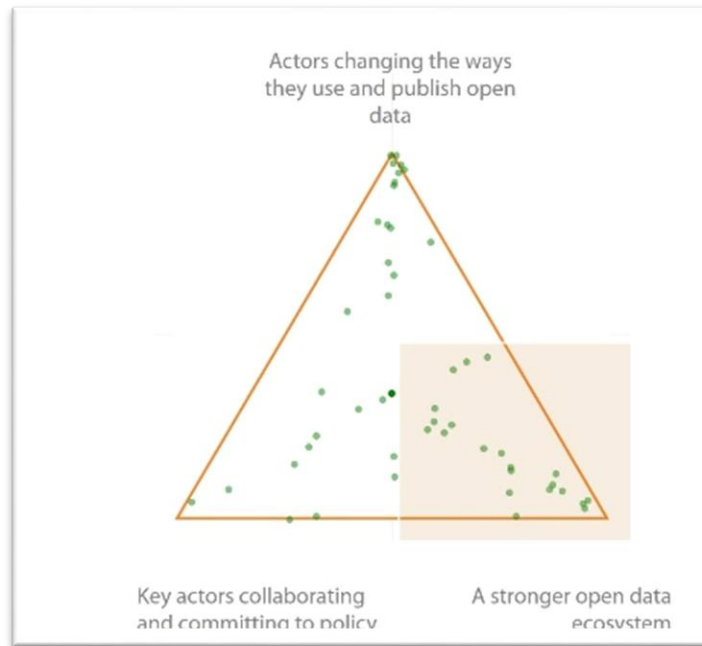


Figure 22: Key success factor in the change in open data use

Triad 9: Strengths

In the context of your story, the strength of GODAN is to ...

80% of respondents indicated that GODAN's strength was around capacity building and providing training. Of these respondents, 75% indicated that the change in their story was attributed to GODAN training courses (either online or face to face). The stories within this cohort mostly describe the benefits of attending GODAN MOOCs or webinars. Of the 11% (n=6) of stories which indicated that GODAN's strength was convening high level events and advocacy, two describe GODAN's work in this area with the Kenyan Government and the Dutch government (NarrID: 69; NarrID: 65)

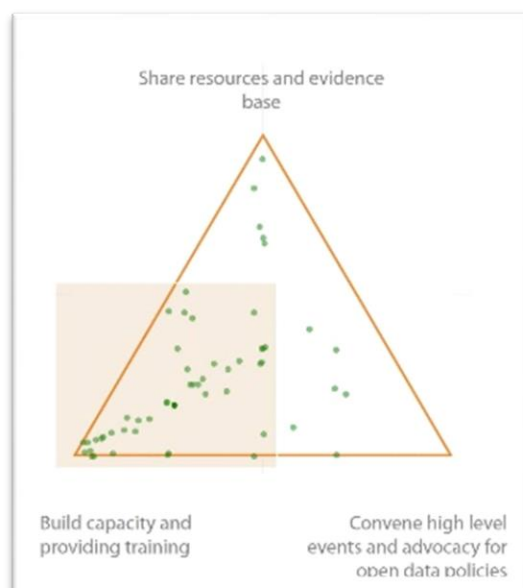


Figure 23: Most influential elements of GODAN support

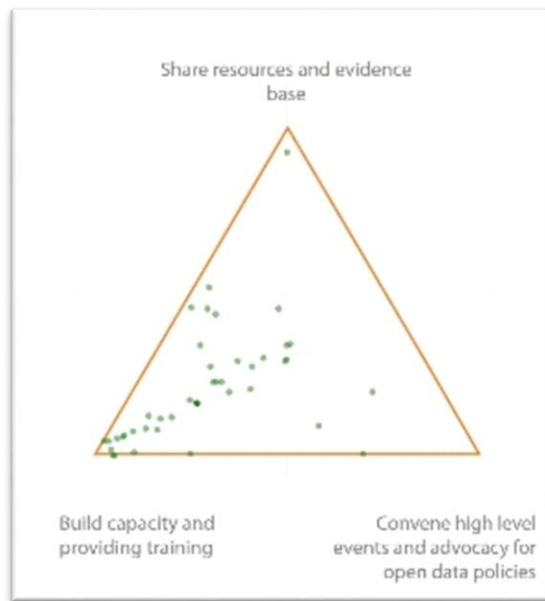


Figure 24: Training courses as subset of capacity building

Table 9b: 75% of respondents who indicated GODAN's strength is capacity building attributed this to training courses

40% of respondents' stories took place within the last year and strongly indicated that GODAN's strength was around capacity building and providing training. 60% of stories took place between 2 and 5 years ago and indicated that GODAN's strength still leaned closest to capacity building but also included stories that saw strength in GODAN's evidence base and convening and advocacy work.

Dyad 10: Agriculture nutrition

The benefits resulting from the change described in my story were mainly related to agriculture/nutrition

Given a choice between agriculture and nutrition on a sliding scale, only 12% of survey respondents said the change in their story was related to nutrition. An example of a story from a respondent who identified as a nutritionist is as follows:

'I partook in the GODAN Training that happened sometimes around 2019, it was a good one for me as I longed to add more values to my skill sets to which the program came in handy. I learned what open data is and how to apply it to my work as a nutritionist, I also have been receiving more updates from the community as this assisted my organization in securing a mini-grant for open data which was a plus for me and my organization as well. I truly want to appreciate GODAN for the good work and hope to work more with them.' (NarrID 63)

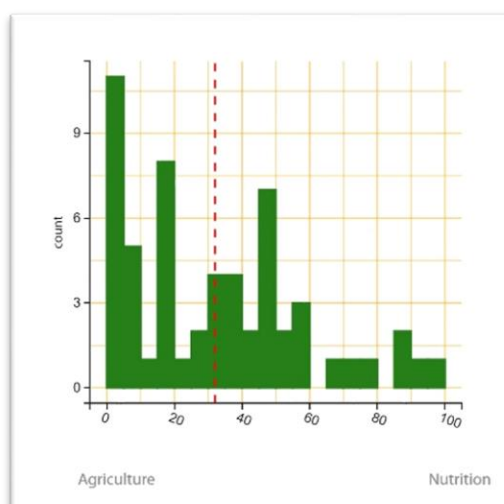


Figure 25: Open data changes linked to nutrition

Dyad 11: Economic opportunities

In the story I told, open data has contributed to creating/not creating economic opportunities and support livelihoods...

Overall, 80% of respondents strongly indicated that open data had contributed to creating economic opportunities and support livelihoods. However, when we read through the content of the stories themselves, most indicate the respondents themselves benefiting from attending online courses, face to face trainings or events. Only a few stories discuss directly engaging with farmers whose livelihoods ought to be affected. One such story that directly references engagement with farmers is as follows:

‘Shortly after completing the course on open data, I organized a first meeting with my field officers who work daily with local farmers. The goal was to encourage them to improve on the visibility by providing more actionable data about the work the local farmers. We have seen great improvement in the number of data now available about the work we do. We have also conducted review and data presentation activities to give data access to decision makers in different organizations. We envisage a comprehensive data repository within the next 12 months. We are currently working on interoperability through the creation of unique identification for farmers and groups on our platform which will be map to group level data on another platform.’ (NarrID 14)

While the story cited above, and others like it, describe direct or indirect engagement with farmers, they do not describe concrete economic opportunities for farmers that were generated by open data. This supports our conclusion that open data users and proponents operate under an assumption that the use of open data will generate such outcomes, but those outcomes have yet to be documented.

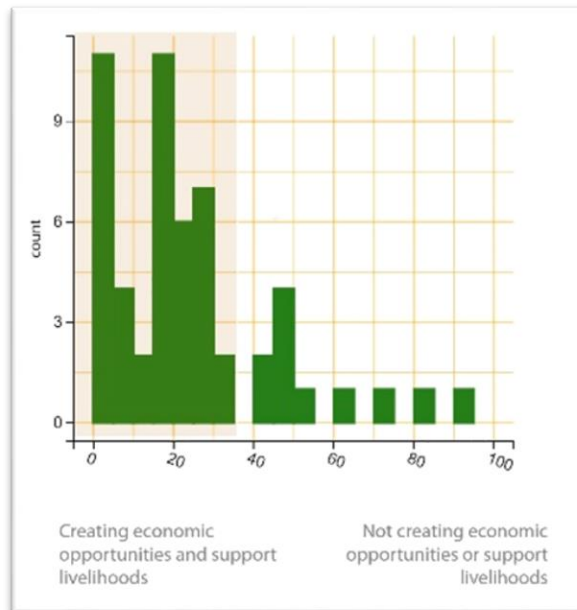


Figure 26: Open Data changes creating economic opportunities

Dyad 12: Contribution

The experience I shared would/would not have happened without GODAN

75% indicated that the experience they shared in their story would not have happened without GODAN. Of the 25% of stories which indicated the change described would have occurred anyway, the content seems to indicate that these actors were already inclined to increase their use of open data or improve open data policies, for example:

‘Participating in GODAN’s course on open data in Agriculture, helped me define respective (open) data management guidelines for our organisation. Although their implementation is still lacking support and financing, our strategy is already being shaped towards this direction.’
(NarrID: 37)

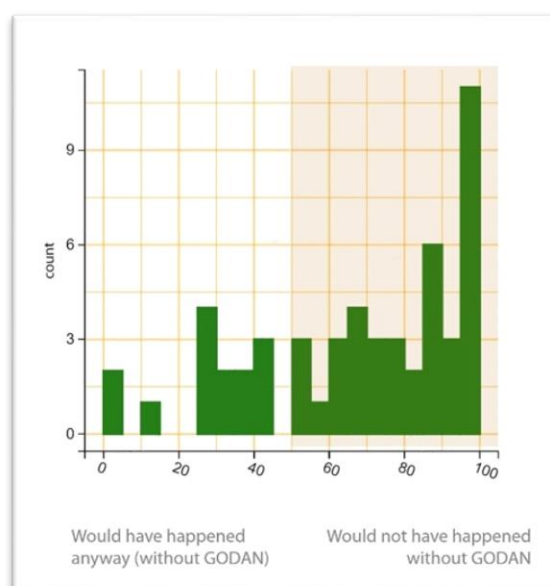


Figure 27: Respondents attribution of Change to GODAN

Dyad 13: Sustainability

The change in my story has been sustained/not sustained

Only 16% of stories indicated that the change which occurred in their story had not been sustained. Reasons for the lack of sustainability of change described in the story included difficulty distributing information generated from open data to farmers due to connectivity issues and mobile phone limitations (NarrID 50) or lack of funding to implement open data programmes. As one story summarized:

‘The main challenge we currently face is inadequate funding. Since open data is a new phenomenon in this part of the world, there is much to be done in terms of sensitization, promotion, capacity building and advocacy.’ (NarrID 13).

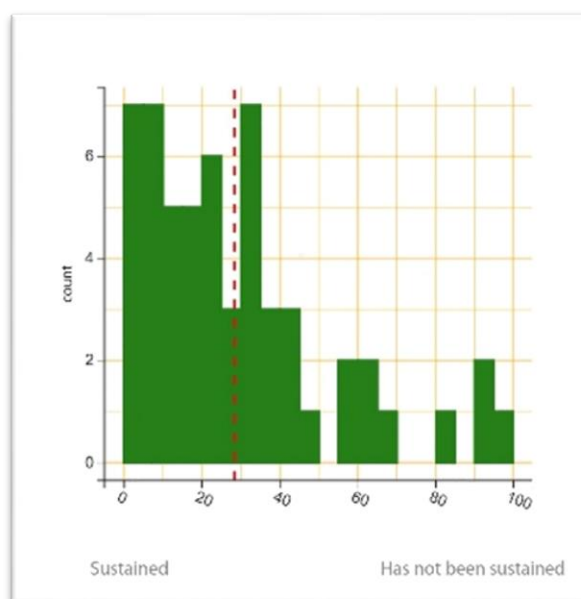


Figure 28: Sustained open data use changes

Dyad 14: Resource accessibility

The GODAN resources that I have used were accessible/not accessible

89% of respondents felt that GODAN resources they used were easily accessible. Of the 11% who did not, the content of the stories did not describe why resources were difficult to access.

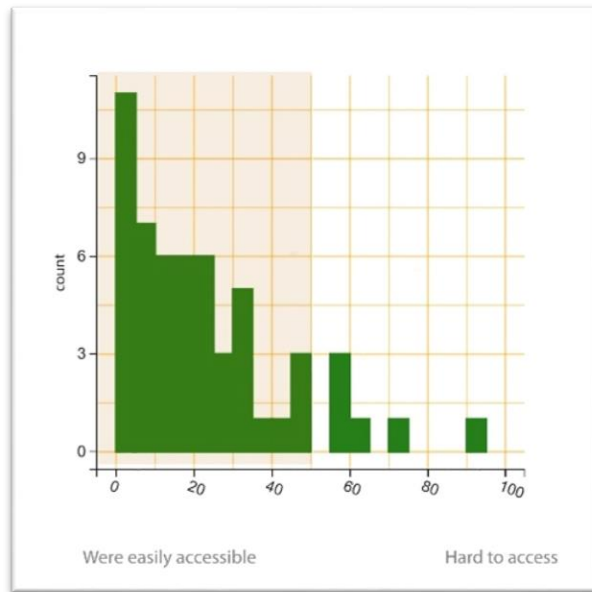


Figure 29: Ease of access of GODAN Resources

Dyad 15: Open data commitments

As a result of attending GODAN events I made strong/ did not make strong commitments to open data actions

Only 4 respondents indicated they did not make open data commitments after attending a GODAN event (however 13 found this question ‘not applicable’). It was clear that the term ‘GODAN events’ was interpreted differently by different respondents with some categorizing an online course as a GODAN event. For example, one story described:

‘Participating in GODAN’s course on open data in Agriculture, helped me define respective (open) data management guidelines for our organisation. Although their implementation is still lacking support and financing, our strategy is already being shaped towards this direction.’ (NarrID 37).

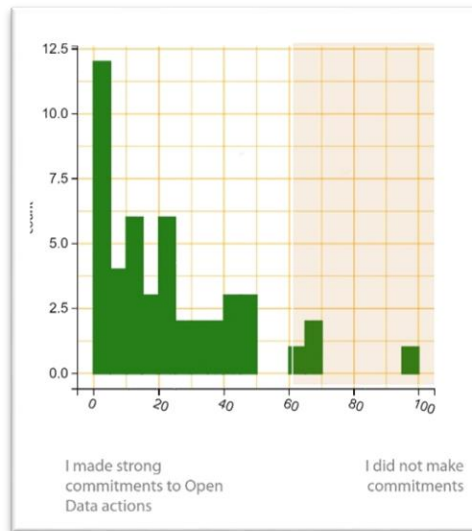


Figure 30: Level of commitment to Open Data actions

MCQ 18: Type of organisation

What type of organisation do you work for?

23% (n=14) of respondents worked for a ministry, public organisation or extension service while 33% (n=20) worked for either an academic organisation or a research institute.

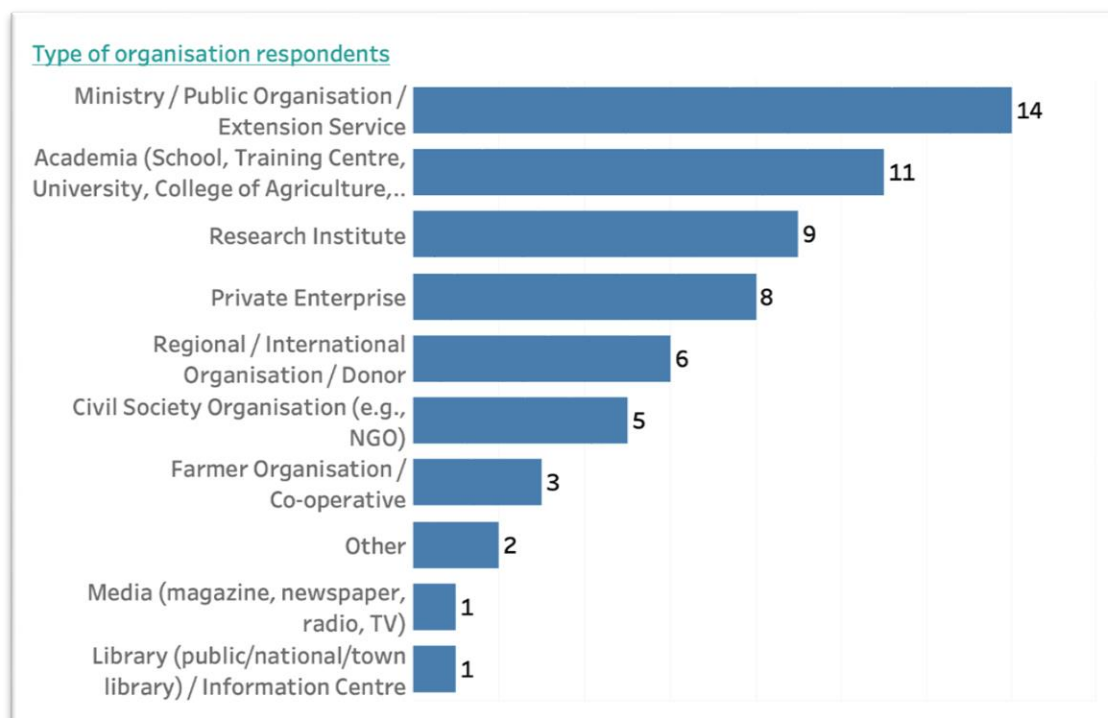


Figure 31: Type of organisation

MCQ 19: Global North South

Would you describe your organization as being based in global north/south

62% of respondents (n= 37) were from the global south.

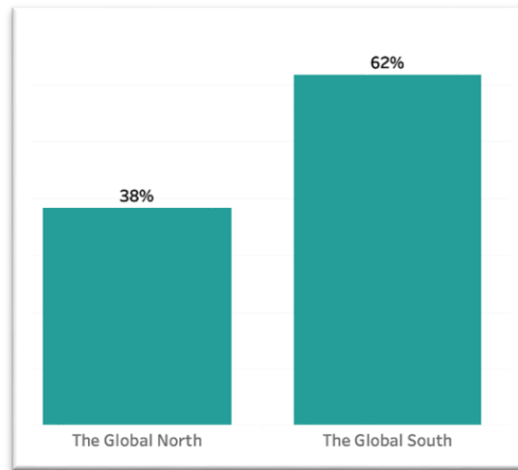


Figure 32: Geographic region

MCQ 20: Country based

Where is your organization based?

Respondents came from a total of 28 different countries. The majority of survey respondents were from anglophone Africa (57%, n=34)

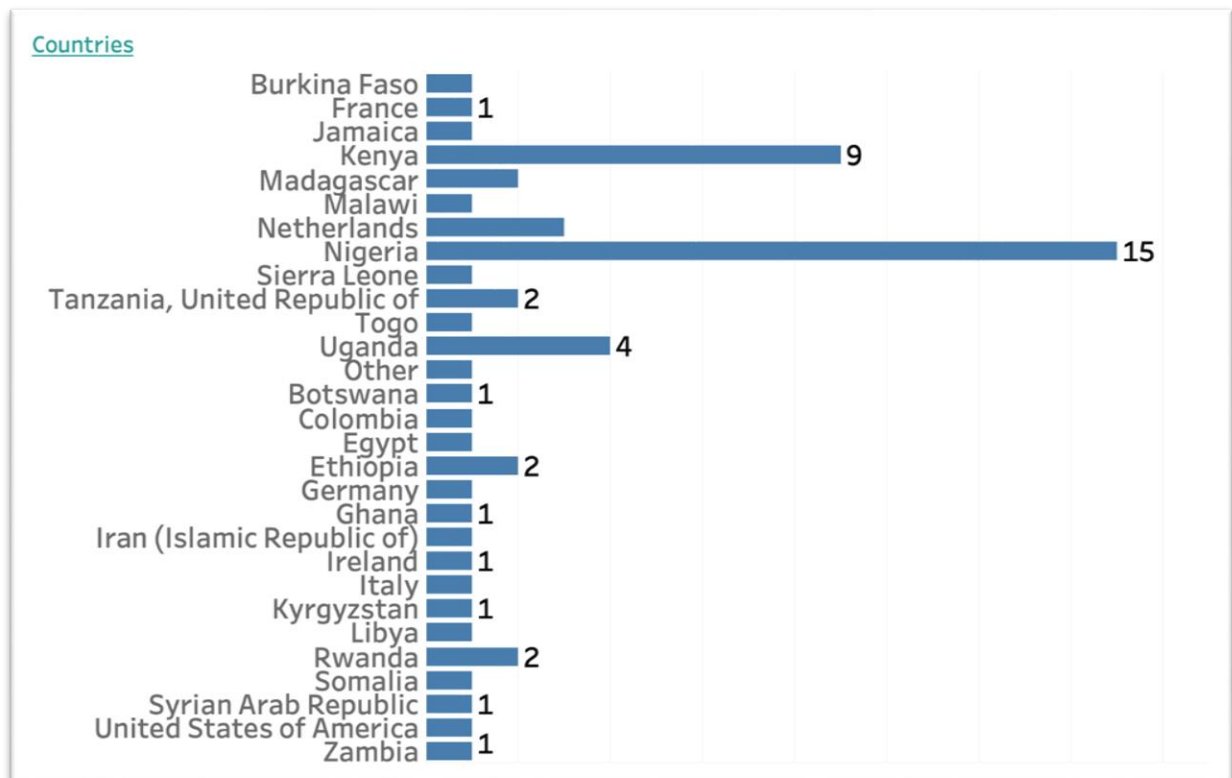


Figure 33: Country of respondent

MCQ 21: Role

What is your role?

39% of respondents identified as researchers or managers while the other 61% indicated a variety of different roles including two people who identified as farmers.

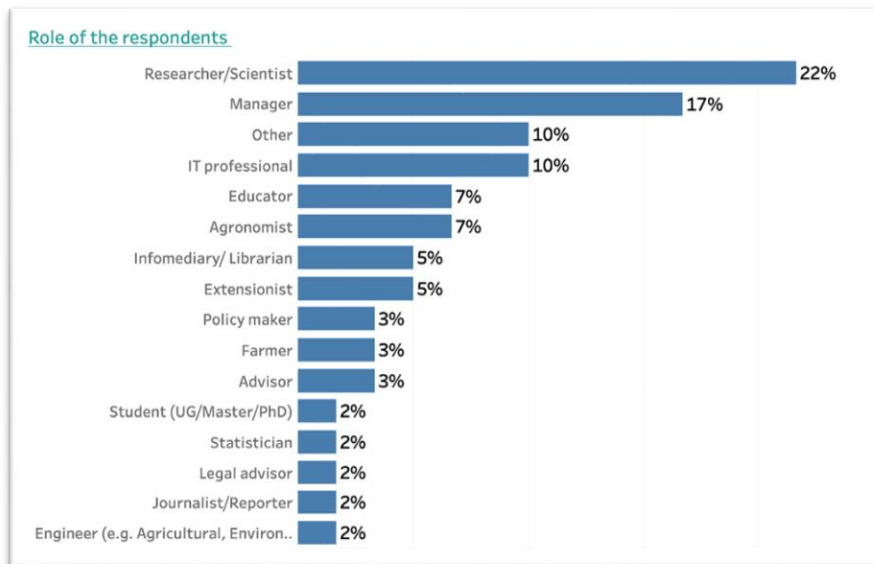


Figure 34: Organisational role

MCQ 22: Gender

What is your gender?

30% of survey respondents identified as female with the other 70% identifying as male.

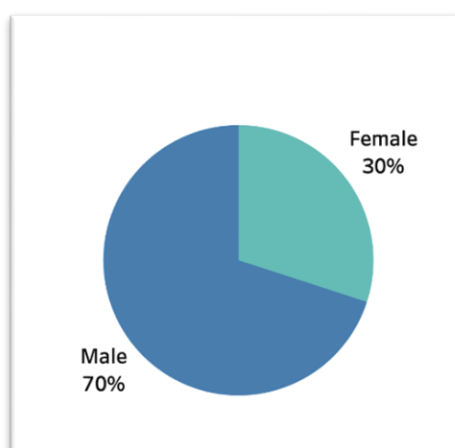


Figure 35: Gender

2. Examples of SenseMaker narratives

Narratives about GODAN collaboration

'I am an active GODAN participant since 2015. Really GODAN opens my mind on the concept of Open Data not only in agriculture and nutrition but also in a wide range (Science and education) generally. I have been following a series of webinars that were organized by the GODAN active group for the last five months. Also, I have taken two online courses and awarded digital certifications. Very important things to mention before my story on access, use or sharing of agriculture and nutrition, I would like to express my deepest gratitude to GODAN for their full sponsorship to participate in Africa Open Data that were held in Tanzania (Dare Salam) in Sep 2015 and Ghana (Accra) July 17, 2017 where I have been gained a significant experiences and exposure on access, use, and sharing of open data. Saying this, I would like to share a story on open access, use or sharing of data on weather data during crop harvesting in Ethiopia. During harvesting season Ethiopia Metrological agency work seriously in notifying the weather information to farmers through traditional media (Radio and TV). But most of the smallholder farmers are have no access to these media particularly TV because of power access. FM radios that disseminate about weather information are also saturated only at center of the country. So, the remote area farmers were affected due to lack of daily weather data (rain). This changes the information-seeking behaviour of farmers from traditional media use to mobile phone use. The mobile phone use is only phone call, no social media or apps usage because of lack of digital literate. Generally, all these negatively affect me to fully exercise the access, use or sharing of agriculture data in Ethiopia.' (NarrID: 50)

'We have not yet implemented this but have just got to know about it from GODAN. Together, we are now exploring opportunities for integration of the concept of open data in agricultural universities in Africa. What we have done so far in the last 6 months is to make open GIS data and open source software for agricultural teaching, research and innovation.' (NarrID: 53)

'GODAN helped us design a data-driven agriculture innovation prize by a development funder in Nepal and it really highlighted the value of public data and dynamized the project portfolio of one of the development funders there. Since that time GODAN has been a key go-to resource for understanding bottleneck issues, the evolving policy dimension, and interesting stories along the way to open an FAIR data.' (NarrID: 43)

Narratives about GODAN online courses

'The open data online course have been so far the most positive course for me as a tutor. As a trainer, I use the materials to enrich my instructional notes. New information on agricultural data is always on point. Case studies gives new perspective.' (NarrID: 26)

'I was very much appreciated with training of online course and workshop offered by GODAN and IGAD, through GODAN I have been able to participate in other course for example research 4 life MOOC (global access to research in health, food and agriculture, environment, innovation and law. Through these training I have been able to use open access repository data to share food and nutrition data and information.' (NarrID: 56)

'Participating in GODAN's course on open data in Agriculture, helped me define respective (open) data management guidelines for our organisation. Although their implementation is still lacking support and financing, our strategy is already being shaped towards this direction.' (NarrID:37)

Narratives about open data

'Positive: Satellite data is now available under free and open license. More geospatial data from agricultural administrations in Europe becomes available as open data. Data platforms arise that facilitate integration of data from different sources. Negative: the hyped promise of data being valuable made many organisations either greedy or cautious, or both. The ongoing debate about alleged data ownership creates fuzz and mist, hampering the real debate about data value; (NarrID: 35)

'I work in a French agricultural institution on opening data. In parallel, I am training on innovation and open data. As part of this training, I had to write a prospective study on the impact that opening agricultural data could have on global warming. I am deeply convinced that open data is a crucial element in moving forward on subjects such as global warming. The IPCC itself says that for certain subjects it lacks data and that it is obliged to resort to analyses of scientific articles. Too bad. (NarrID: 21)

For access and sharing agriculture and nutrition open data for theses last 5 years, the national center cibl,public,students,searcher and teachers by their evaluation paper told us that the availability of data helps them for their research. They are so lucky to benefit of data. We access and share it to help all of people to get data that they need, not only for agriculture but for all discipline available. For this year, we continue to share the data for the public or the new public who take sense the data and consider the importance of accessibility data. (NarrID: 28)

Since last 5 years for use and sharing agriculture or nutrition data, I benefit the access for many available data. In my part, I continue to share it to all of public interesting and this opportunity help me to get mor information in the world and specially for our country Madagascar. It is for me and my organisation a positive changed and we continue to make action for a national round for sharing and encourage to use data for many domain as like agriculture and nutrition. (NarrID: 68)

4 Annexe 4: List of key informants interviewed

Name	Organisation / Country
GODAN Secretariat	
Andre Laperriere	GODAN / Canada
Eliane Ujomoro	GODAN / Canada
Samuel Compton	GODAN / Canada
Raffat Zerín	GODAN / Canada
Kiringai Kamau	GODAN / Kenya
Kathryn Bailey	GODAN / UK
Foteini Zampati	GODAN / Greece
Jeni Tennison	Open Data Institute / UK
Pauline L'Hénaff	Open Data Institute / UK
Ruthie Musker	CABI (previously GODAN) / US
Martin Parr	CABI (previously GODAN) / UK
GODAN Action	
Rob Lokers	Wageningen; WUR Alterra / Netherlands
Sander Janssen	Wageningen / Netherlands
Ben Schaap	Wageningen/ Netherlands
Chipo Msengezi	CTA / Kenya
Chris Addison	CTA / Netherlands
Suchith Anand	GODAN/ UK
Laura Meggiolaro	Land Portal / Italy
Alan Stanley	IDS / UK
Imma Subirats	FAO / Italy
Valeria Pesce	FAO (previously GFAR - Global Forum on Agricultural Research and Innovation)/ Italy
GODAN Network	
Wisdom Donkor	AFRIODIRF /Ghana
Abdoul Malick Tapsoba	CAFOD / Burkina Faso
Sonigitu Ekpe	Research Data Alliance / Nigeria
Graham Mullier	Syngenta / UK
Karel Charvat	CCSS / Czech Republic
Sylvianne Toporkoff	Global Forum /France
Charlie Ngounon	AfroLeadership / Cameroon
Winnie Kamau	Association of Freelance Journalists / Kenya
Abdoul Malick Tapsoba	CAFOD / Burkina Faso
Victor Sunday	Unique Mappers Team / Nigeria
George Nengo	GIZ (previously Office of the Deputy President) / Kenya
Muchiri Nyaggah	LDRI Africa / Kenya
Ania Calderon	Open Data Charter / US
Ana Brandusescu	McGill / Canada
Louise Piper	Haller / UK
Kenneth Mubea	GPSDD / Kenya

Funders	
Seb Mhatre	DFID / UK
Kerry Albright	UNICEF (ex DFID) / UK
Luisa Odell	DFID / UK
Jaime Adams	USDA / US
Christian Witt	Gates Foundation / US
Stanley Wood	Gates Foundation / US
External Observers	
Duncan Edwards	Consultant / UK
Evangelia Berdou	Consultant / UK
Tim Davies	Independent / UK
Sangita Dubey	FAO / Italy
Maurice McNaughton	Independent/Jamaica
Simone Sala	IFAD /Italy
Josh Powell	Development Gateway / US

5 Annexe 5: Key GODAN Outputs

1. [Agri-food Data Standards: a Gap Exploration Report](#) - Valeria Pesce (FAO), Gabin-Wilfried Kayumbi, Jeni Tennison (ODI), Lisette Mey (Land Portal), Panagiotis Zervas (AgroKnow), 2018
2. [A Global Data Ecosystem for Agriculture and Food](#) - Dean Allemang, Bobbin Teegarden, 2017
3. [A Map of Agri-food Data Standards](#) - Valeria Pesce (FAO), Jeni Tennison (ODI), Lisette Mey (Land Portal), Clement Jonquet, Anne Toulet, Sophie Aubin, Panagiotis Zervas (AgroKnow), 2018
4. [A survey of data standards for land and nutrition data](#) - Valeria Pesce (FAO), Lisette Mey (Land Portal), Pauline L'Hénaff, Carlos Tejo-Alonso, 2018
5. [Digital and Data-Driven Agriculture: Harnessing the Power of Data for Smallholders](#) - Ajit Maru, Dan Berne (Lagom Ag), Jeremy De Beer (GODAN), Peter Ballantyne, Valeria Pesce (FAO), Stephen Kalyesubula, Nicolene Fourie, Chris Addison, Anneliza Collett, Juanita Chaves, 2018
6. [Donor Open Data Policy and Practice: an analysis of five agriculture programmes](#) - Fiona Smith (ODI), Jamie Fawcett (ODI), Ruthie Musker (GODAN), 2017
7. [GODAN Action – a review of relevant methods and frameworks for impact evaluation of open data](#) - Evangelia Berdou, Laura Miguel Ayala (Wageningen), 2018
8. [GODAN's Impact 2014-2018 – Improving Agriculture, Food and Nutrition with Open Data](#) - Ruthie Musker (GODAN), Juliet Tumeo, Ben Schaap (Wageningen UR), Martin Parr, 2018
9. [Guidelines for Analysing Pathways to Impact](#) – Rob Lokers (Wageningen), Evangelia Berdou, Laura Miguel Ayala (Wageningen), Lisette Mey (Land Portal), 2019
10. [How Can We improve Agriculture, Food and Nutrition with Open Data?](#) - Liz Carolan (ODI), Fiona Smith (ODI), Vassilis Protonotarios (Agro-Know), Ben Schaap (Wageningen UR), Ellen Broad (ODI), Jack Hardinges (ODI), 2015
11. [Impact narratives for weather data: pathways to encourage and support co-development of farm management services](#) - Evangelia Berdou, Laura Miguel Ayala (Wageningen), Rob Lokers (Wageningen), Fiona Smith (ODI), Pauline L'Henaff, 2019
12. [Impact Stories](#)- Samuel Compton (GODAN), year not provided
13. [Knowledge Reservoir for Impact Evaluation - A Collection of Resources on Impact Evaluation of OpenData for Development](#) - Rob Lokers (Wageningen), Laura Miguel Ayala (Wageningen), Evangelia Berdou, 2019
14. [Land and nutrition data in the Land Portal and the Global Nutrition Report: a gap exploration report](#) - Valeria Pesce (FAO), Lisette Mey (Land Portal), Pauline L'Hénaff, Carlos Tejo-Alonso, 2018

15. [Land data impact evaluations: Guidelines for analysing pathways to impact](#) - Lisette Mey (Land Portal), Laura Miguel Ayala (Wageningen), Rob Lokers (Wageningen), 2019
16. [Map of Standards](#) – Valeria Pesce (FAO), Leigh Dodds (ODI), Jeni Tennison (ODI), Panagiotis Zervas (AgroKnow), 2017
17. [Nutrition data impact evaluations: guidelines for analysing pathways to impact](#) - Evangelia Berdou, Rob Lokers (Wageningen), 2019
18. [Open Data Impact Narratives](#) – Lisette Mey (Land Portal), Evangelia Berdou, Laura Miguel Ayala (Wageningen), Rob Lokers (Wageningen)
19. [Open Up Guide for Agriculture](#) - André Jellema, Ruthie Musker (GODAN), Fiona Smith (ODI), Ana Brandusescu (Web Foundation), Olivia Davies (GODAN), 2016
20. [Ownership of Open Data: Governance Options for Agriculture and Nutrition](#) - Jeremy de Beer (GODAN), 2017
21. [Recommendations for filling identified gaps in data standards for food and agriculture](#) - Jeni Tennison (ODI), Leigh Dodds (ODI), Gabin-Wilfried Kayumbi, Valeria Pesce (FAO), Panagiotis Zervas (AgroKnow), 2018
22. [Recommendations for filling identified gaps in standards for land and nutrition data](#) - Deborah Yates, Leigh Dodds (ODI), Jeni Tennison (ODI), Valeria Pesce (FAO), Panagiotis Zervas (AgroKnow), 2019
23. [Recommendations for filling identified gaps: weather data](#) - Jeni Tennison (ODI), Leigh Dodds (ODI), Valeria Pesce (FAO), Panagiotis Zervas (AgroKnow), 2018
24. [Responsible Data in Agriculture](#) - Lindsay Ferris and Zara Rahman (The Engine Room), 2016
25. [Land data impact evaluations: Guidelines for analysing pathways to impact](#) - Lisette Mey (Land Portal), Laura Miguel Ayala (Wageningen), Rob Lokers (Wageningen), 2019
26. [Weather data standards: a gap exploration report](#) - Valeria Pesce (FAO), Jeni Tennison (ODI), Leigh Dodds (ODI), Panagiotis Zervas (AgroKnow), 2018

6 Annexe 6: Evaluation Management

1. Team

The IDS evaluation team brought together professionals from IDS' Knowledge, Impact and Policy Cluster combining our Monitoring, Evaluation and Learning and Digital Knowledge teams with research staff from both our Digital and Technology and Health and Nutrition Clusters as well as drawing upon administrative support from our Hub staff. The following team was formed to deliver this scope of work with strong coordination through weekly team meetings and a dedicated team working space:

IDS Evaluation Team		
Name	Position	Responsibilities
Louise Clark	Team leader	Responsible for the overall leadership of the evaluation and delivery of the programme of work. <ul style="list-style-type: none"> Overall lead and point of contact for the client Coordinate the work of team to ensure working in unison Quality Assurance Lead inception and final presentation discussions with the client
Tony Roberts	Open data advisor	Responsible for review of external literature <ul style="list-style-type: none"> Coordinate work with Pedro Pietro Martin and Kevin Hernandez Support internal desk review and interviews
Inka Barnett	Nutrition/Contribution Analysis advisor	Advise on Contribution Analysis methodology and nutrition focused outputs
Steff Deprez	SenseMaker advisor	Advise on SenseMaker design and provide support during set-up, data collection and analysis
Pedro Pietro Martin	Analyst	Support review of quantitative data, external literature, desk review, interviews
Grace Lyn Higdon	Analyst	Support SenseMaker survey, desk review, interviews
Kevin Hernandez	Analyst	Support review of external literature, desk review, interviews
Alistair Scott	Knowledge Manager	Research uptake, data protection and management, support on stakeholder engagement and communication of evaluation findings

Table 2: GODAN Evaluation Team

2. Governance

The Evaluation Steering Group (ESG) is the highest decision-making body in this evaluation. The members of the ESG are listed in table 2. The ESG provides general oversight and makes strategic decisions about the evaluation's direction and focus. The ESG and evaluation team met at 3 key points during the evaluation – to kick-off the evaluation (22nd Jan), to review and approve the inception report (19th Feb) and for a validation meeting to discuss the preliminary evaluation draft (8th April). In addition, members of the ESG tested and provided feedback on the SenseMaker survey. In addition to the ESG meetings.

GODAN Performance Evaluation Steering Group	
Name	Organisation
Rachel Beaven	DFID contact point
Robert Morrison	DFID
Seb Mhatre	DFID
Calum Campbell	DFID

Sander Janssen	GODAN Action / Wageningen
Andre Laperriere	GODAN Secretariat

Table 2.: GODAN Evaluation Steering Group

The IDS team oversaw the implementation of the evaluation, led by the team leader with support from the wider evaluation team listed in the table above. IDS was a partner of GODAN Action with responsibility for research uptake. To ensure there was no conflict of interest IDS created a team who are entirely separate from the team who were involved with GODAN Action and was transparent in all communications of prior knowledge of the programme and how it was gained.

The team leader maintained regular communication, primarily over email, with the DFID contact point for the evaluation. IDS also engaged with specific members of the ESG to provide updates and seek guidance through email and skype calls to coordinate emerging logistical support such as use of DFID logo and SenseMaker survey dissemination and promotion. The evaluation team was able to work freely without any interference. Covid 19 has impacted upon the timely delivery of the report and an extension for submission of the final report was negotiated with DFID.

A preliminary draft of the evaluation report was circulated to members of the ESG and discussed at a validation workshop. In addition to the valuable feedback from this conversation, ESG members provided written comments to the draft document which were systematically addressed while compiling the final evaluation report. In a few instances, additionally evidence was provided which allowed us to amend some of our findings and recommendations.

3. Communications and Engagement Plan

This plan seeks to work collaboratively with GODAN and DFID to emphasize wider lessons for the open data for agriculture and nutrition sector as well as other relevant programmes highlighted as potential evaluation audiences by DFID, such as open data for development programmes, digital tools for agriculture programmes, and influencing policy on data programmes. We envision promoting abbreviated versions of the final evaluation report in different channels subject to further review.

3.1 Primary Outputs

- Evaluation report
- A 4-page synthesis of key findings and data visualisation of aggregated findings from the survey. We have written this synthesis as the Executive Summary
- GODAN webinar: with GODAN's permission this will be promoted as part of the established GODAN Webinar series.

3.2 Blogs

We will discuss with DFID and GODAN Secretariat the most appropriate blog channels to share our findings. For example, the following channels could be utilized:

- IDS
- Eldis
- AIMS
- GODAN
- Open Data Institute

3.3 Audiences and channels

The primary audiences for dissemination of the results of the survey and the evaluation findings are:

Audience	Output	Notes
DFID and other GODAN donors	Webinar, Evaluation report, Learning paper	DFID engagement will be coordinated through Rachael Beavan. A list of non-DFID donor contacts is being compiled.
GODAN Secretariat	Evaluation report, Learning paper	Shared through Andre Laperiere.
GODAN network members	Learning paper, Webinar	Coordinated through Kathryn Bailey
GODAN Action partners	Evaluation report, Learning paper, Webinar	Coordinated through Rob Lokers
Survey participants and interviewees	Blog article, learning paper	Findings to be shared via the channels detailed above
Open data researchers and evaluation community	Blog article, learning paper	Primary channels – Open Data Institute and Web Foundation
Agriculture and Nutrition data practitioners	Blog article, learning paper	Primary channels – AIMS /FAO, WUR and CTA (Agriculture); IDS and Eldis (Nutrition)

Volume 2

Terms of Reference for a Performance Evaluation of the Global Open Data for Agriculture and Nutrition Programme (203202)

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3. INTRODUCTION

These terms of reference set out the requirements for a performance evaluation for the Global Open Data for Agriculture and Nutrition Programme. The terms of reference set out the background, context and the purpose of the evaluation before setting out more detail on the evaluation itself.

4. BACKGROUND

The Department for International Development (DFID) leads the UK's work to end extreme poverty. DFID is tackling the global challenges of our time including poverty and disease, mass migration, insecurity and conflict. DFID's work is building a safer, healthier, more prosperous world for people in developing countries and in the UK too.

The Global Open Data for Agriculture and Nutrition (GODAN) initiative⁴⁷ was launched in October 2013 at the Open Government Partnership Summit. An outcome of the G8 Camp David Summit hosted by the United States in March 2012 was a commitment contained in the "New Alliance for Food security and Nutrition⁴⁸" to "share relevant agricultural data available from G8 countries with African partners and to convene an international conference on open data for agriculture to develop options for the establishment of a global platform to make reliable agricultural and related information available to African farmers, researchers and policymakers, taking into account existing data systems".

The G8 Open Data for Agriculture conference was held in April 2013 where G8 member states, including the UK developed and shared national action plans for agricultural open data⁴⁹. As a result of this meeting, a strategic decision was taken by the US and UK governments to lead on the development of an agricultural open data strategic alliance, but at the UK's suggestion, to also incorporate a nutritional focus. The then UK Secretary of State for International Development announced the intention to form such an alliance at the UK 'Nutrition for Growth⁵⁰' event held in June 2013 before she formally launched the 'Global Open Data for Agriculture and Nutrition' (GODAN)⁵¹ alliance at the Open Government Partnership Summit in London in October 2013⁵².

The GODAN initiative seeks to support global efforts to make agricultural and nutritionally relevant data available, accessible, and usable for unrestricted use worldwide (see www.godan.info). The initiative focuses on building high-level policy and public and private institutional support for open data. The initiative encourages collaboration and cooperation among existing agriculture and open data activities, without duplication, and brings together all stakeholders to solve long-standing global problems.

Open access to research, and open publication of data, are vital resources for food security and nutrition, driven by farmers, farmer organizations, researchers, extension experts, policy makers, governments, and other private sector and civil society stakeholders participating in 'innovation systems' and along value chains. Lack of institutional, national, and international policies and

⁴⁷ <https://www.godan.info/about>

⁴⁸

[http://www.europarl.europa.eu/RegData/etudes/STUD/2015/535010/EXPO_STU\(2015\)535010_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2015/535010/EXPO_STU(2015)535010_EN.pdf)

⁵ <https://sites.google.com/site/g8opendataconference/home>

⁵⁰ <https://sites.google.com/site/g8opendataconference/home>

⁵¹ www.godan.info

⁵² <https://www.gov.uk/government/topical-events/open-government-partnership-summit-2013>

openness of data limits the effectiveness of agricultural and nutritional data from research and innovation. Making open data work for agriculture and nutrition requires a shared agenda to increase the supply, quality, and interoperability of data, alongside action to build capacity for the use of data by all stakeholders.

The GODAN initiative is a voluntary association brought together around a shared purpose. Launched in October 2013, the initiative welcomes all those who share this purpose to join as members and to participate in shaping coordinated activities that can deliver on the potential of open data for agriculture and nutrition. Together, initiative partners seek to support this initiative through the following guidelines and principles.

In line with global movements for open data and open access, the initiative seeks to:

- Advocate for open data and open access policies by default, in both public and private sectors, whilst respecting and working to balance openness with legitimate concerns in relation to privacy, security, community rights and commercial interests; and
- Advocate for the release and re-usability of data in support of Innovation and Economic Growth, Improved Service Delivery and Effective Governance, and Improved Environmental and Social Outcomes.

The UK has provided £2,460,000 to the GODAN Secretariat over five years (November 2014 to October 2019). In addition the UK has provided £2,080,000 in support of GODAN Action an agricultural/nutritional open data research and capacity-building project which is a UK-specific contribution to GODAN objectives. This is being funded solely by the UK government. Finally the UK is providing £240,000 in support of procurement of two independent evaluations and other ongoing monitoring activities to allow for independent assessment and lesson-learning from GODAN funding investments.

GODAN initiative was officially launched by the Secretary of State at the Open Government Partnership (OGP) Summit in October 2013. GODAN is jointly funded by the governments of the UK, Netherlands and the United States, the Centre for Agriculture and Biosciences International and the U.N. Food & Agriculture Organisation.

The main activities of GODAN are:

- To increase coordination, mapping, impact documentation, knowledge management and advocacy amongst agriculture/nutrition partners which are working on open data through the establishment of an Executive Secretariat (**GODAN Executive Secretariat**). The secretariat is jointly funded by all the main partners (www.godan.info);
- To conduct research and capacity building projects (**GODAN Action**), funded through a specific UK contribution (<https://www.godan.info/godan-action>). This workstream was managed as a separate entity and was not part of the work of the Secretariat;
- To conduct on-going monitoring and two independent studies (one of which is weather related and the other is still to be agreed).

The DFID Business case, Logframe and Annual Reviews can be found at: <https://devtracker.dfid.gov.uk/projects/GB-1-203202>. The business case set out a more detailed set of activities within each of the three workstreams. The logframe (outputs 1 & 2 cover GODAN Secretariat and outputs 3 to 5 GODAN Action) is also shown in **Error! Reference source not found.**

Figure 37 sets out the theory of change for the GODAN initiative showing the main assumptions and the way in which the activities are designed to achieve the overall impacts of enhanced economic

growth, good governance through more transparent and inclusive societies, better nourished and less hungry societies as well as more sustainable use of agricultural and natural resources.

The main assumption is that key actors are able and willing to enact changes that will lead to a strengthening of the open agricultural and nutritional data ecosystem in developing countries. There is also an assumption that open data will lead to better economic, social and environmental impacts as the data is used.

	Results Chain	Indicators	Planned 2019	Achieved 2019
IMPACT	More efficient, effective and sustainable use of agricultural and natural resources leading to enhanced economic growth and better nourished societies.	Number of Open Data initiatives in which stakeholders in the elaborated thematic areas are both engaged and feel more knowledgeable		
OUTCOME	An open agricultural and nutritional data ecosystem that facilitates increased supply and use of agricultural and nutritional open data for enhanced accountability and transparency, improved service delivery, innovation and economic growth.	<ol style="list-style-type: none"> Number of partner/stakeholder initiatives that use agricultural and nutritional open data to deliver: <ol style="list-style-type: none"> accountability better policy making improved operational efficiency new businesses and business innovation research discoveries Number of partner/stakeholder initiatives that are: <ol style="list-style-type: none"> investing in open data for agriculture and nutrition adopting standards and interoperability principles building capacity evaluating the impact of open data activities more effectively Number of beneficiaries receiving improved agriculture and nutrition services and support as a result of GODAN activity. 		
OUTPUTS	OUTPUT 1: Mobilizing key actors to collaborate and commit to actions that will lead to a strengthening of the open agricultural and nutritional data ecosystem in developing countries 35%	<ol style="list-style-type: none"> Number of major and other key agriculture and nutrition open data events organised or significantly contributed to by the GODAN Secretariat. Number of GODAN partners recruited. Number of new products or services developed through agricultural/nutritional open data hackathons or innovation schemes. 		
	OUTPUT 2: Collecting and compiling tools, stories, case studies, and papers that equip key actors to strengthen the open agricultural and nutritional data ecosystem in developing countries 20%	<ol style="list-style-type: none"> Creating an effective repository of tools, stories, case studies and papers. Number of advocacy focused policy-relevant papers produced or commissioned by the Secretariat. Communication and governance of the Secretariat. 		
	OUTPUT 3: Improved standards and interoperability for open data for agriculture and nutrition 15%	<ol style="list-style-type: none"> Awareness of standards (Awareness that standards exist and acceptance that they are a good thing; Awareness of the specific standards relevant to the particular stakeholder) Adoption of standards (discoverable through a global online map of standards) in general, and used in pilot interventions in particular 		
	OUTPUT 4: Impact case studies and impact methodology 15%	<ol style="list-style-type: none"> Number of impact cases studies performed and documented (by GODAN Action for testing its impact evaluation framework, or by independent stakeholders/communities initiated/guided by GODAN Action). 		
	OUTPUT 5: Building capacity to use open data for agriculture and nutrition 15%	<ol style="list-style-type: none"> Number of people - by gender and sector - that have benefited from the delivery of capacity development activities (including eg. online, face-to-face, seminars, workshops). Media products: number of articles, booklets, brochures, videos and innovative training products developed as a result of capacity development activities (uploaded through the GODAN Action programme and the GODAN capacity development working group webpages). 		

Figure 36: Logframe summary

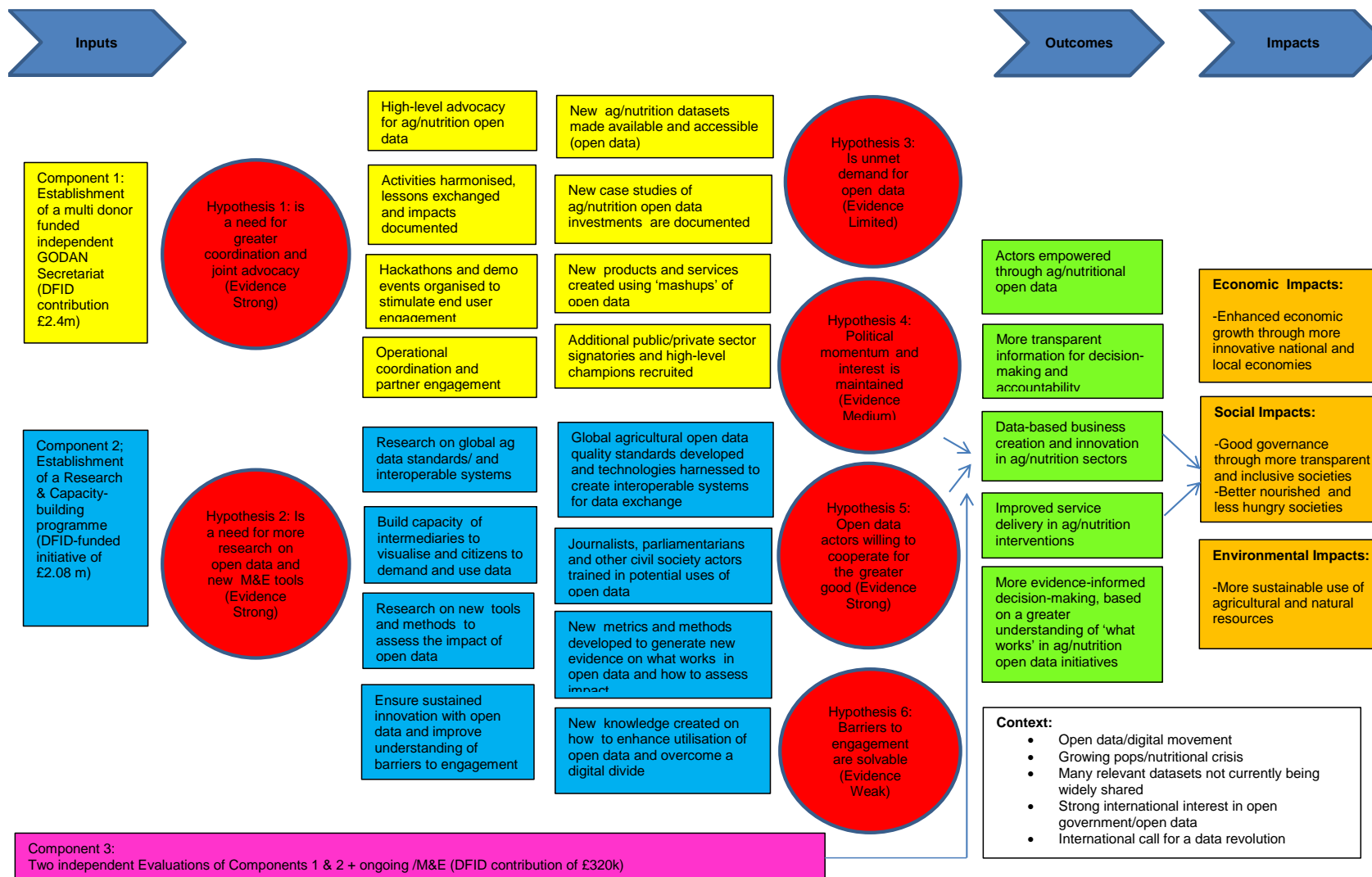


Figure 37: Theory of Change for the GODAN Initiative

THE CONTEXT AND NEED FOR THE PROGRAMME AND EVALUATION

Open data has been a growing area of focus for governments around the world with the UK taking a leading role. Transparency was one of the UK's three priorities during the UK's Presidency of the G8 when in June 2013 G8 governments agreed an Open Data Charter⁵³ promote transparency, innovation and accountability.

The Open Data Charter set out five principles to allow the improved release, access and reuse of data held by G8 countries and signified a growing world recognition that opening up data can help to transform people's everyday lives.

The UK, alongside the US are seen as global leaders in the wider open data and transparency space and others are keen to learn from our experiences.

An outcome of the G8 Camp David Summit hosted by the United States in March 2012 was a commitment contained in the "New Alliance for Food security and Nutrition⁵⁴" to "share relevant agricultural data available from G8 countries with African partners and to convene an international conference on open data for agriculture to develop options for the establishment of a global platform to make reliable agricultural and related information available to African farmers, researchers and policymakers, taking into account existing data systems".

The G8 Open Data for Agriculture conference was held in April 2013 where G8 member states, including the UK developed and shared national action plans for agricultural open data⁵⁵. As a result of this meeting, a strategic decision was taken by the US and UK governments to lead on the development of an agricultural open data strategic alliance, but at the UK's suggestion, to also incorporate a nutritional focus. The then UK Secretary of State for International Development announced the intention to form such an alliance at the UK 'Nutrition for Growth⁵⁶' event held in June 2013 before she formally launched the 'Global Open Data for Agriculture and Nutrition' (GODAN)⁵⁷ alliance at the Open Government Partnership Summit in London in October 2013⁵⁸.

Whilst no longer having a specific Africa focus, or indeed being limited to G8 ownership GODAN has become a global movement with 969 partners from national governments, non-governmental, international and private sector organisations.

The GODAN Initiative was designed to learn from experiences in developing international common data standards and use of open source code including the International Aid Transparency Initiative (IATI).

"The GODAN Initiative seeks to support global efforts to make agricultural and nutritionally relevant data available, accessible and usable for unrestricted use worldwide. The initiative focuses on building

⁵³ <https://www.gov.uk/government/publications/open-data-charter>

⁵⁴

[http://www.europarl.europa.eu/RegData/etudes/STUD/2015/535010/EXPO_STU\(2015\)535010_EN.pdf](http://www.europarl.europa.eu/RegData/etudes/STUD/2015/535010/EXPO_STU(2015)535010_EN.pdf)

⁵⁵ <https://sites.google.com/site/g8opendataconference/home>

⁵⁶ <https://sites.google.com/site/g8opendataconference/home>

⁵⁷ www.godan.info

⁵⁸ <https://www.gov.uk/government/topical-events/open-government-partnership-summit-2013>

high-level policy and public and private institutional support for open data. Lack of institutional, national and international policies and openness of data limits the effectiveness of agricultural and nutritional data from research and innovation and making open data work for agriculture and nutrition requires a shared agenda to include the supply, quality and interoperability of data alongside action to build capacity for the use of data by all stakeholders” (GODAN Statement of Purpose)⁵⁹.

Given the innovative nature of this programme and the fact that a substantial body of evidence is yet to emerge on the impact and effectiveness of open data investments a third workstream was set up to allow for two independent impact evaluations. These were an integral part of the programme and looked at specific areas of open data rather than this evaluation which is focused on the performance of the programme itself at a broader level.

There is current global hypothesis that opening up data will help contribute to improved accountability and transparency of governments and private sector, improve service delivery and enhance innovation and economic growth. The business case gives further background on the evidence which is available in the Appraisal section.

In line with DFID’s *Strategic Vision for Girls and Women*, the GODAN initiative explicitly seeks to explore the power of open data to reduce gender inequality in access to agricultural and nutritional information and to enhance girls and women’s ability to have voice, choice and control in their lives. GODAN was designed to help establish an enabling environment of strong, open and inclusive economies, societies and political institutions which harness the leadership, participation, skills and innovation of girls and women as leaders and active citizens through:

- Greater voice in decision making in their household, community and country;
- Greater choice in opportunities to benefit from paid work and to have sufficient income; and
- Greater control over their income, productive assets and other resources (including food and water).

Examining power relations including between girls/women and boys/men, looking at barriers to access to open data and incentives for engagement and user will be an explicit focus of the research activities but all interventions are required to assess potential positive and negative impacts on men and women of all ages, to assess gender-related differences in needs and to provide disaggregation of such data by sex and age.

Any new data collection and capacity building activities were required to be conducted in a gender sensitive manner, impact evaluation and case study analysis should also have a gendered dimension and gender-sensitive indicators that are both qualitative and quantitative. Any data collected should also be made open and transparent whilst addressing privacy concerns.

When bidders were selected for both the independent Secretariat and the research and capacity building workstreams consideration was made of how potential bidders would reduce gender inequality and tackle gender related differences in their proposals. This was considered as part of the formal criteria for selection.

⁵⁹ www.godan.info

THE PURPOSE AND RECIPIENTS OF THE EVALUATION

The main purpose of this performance evaluation is for accountability purposes and as such the primary audience for the evaluation deliverables are DFID policy and programme staff. Reports will also be made available to other stakeholders including US Department of Agriculture. This information will also be used to identify specific lessons for other programmes that support interventions into:

- Digital tools for agriculture, such as Digital Development for Feed the Future” (D2FTF)⁶⁰;
- Open data for development, such as the Open Data for Development network⁶¹; and
- Influencing organisational and governmental policy on data.

The secondary audiences are other international donors, agencies and stakeholders investing in open data. This includes the World Bank, the Global Partnership for Sustainable Development Data and UNDP. It is envisaged that all the evaluation deliverables will be global public goods that can inform decisions about strategic investment and decisions about open data. The evaluation findings will be available to all the GODAN initiative partners. There are nearly 1000 GODAN partners, see link for a full list <https://www.godan.info/partners>.

The FAO have set up the Agricultural Information Management Standards Portal (AIMS⁶²) which gathers information on (and access to) standards, technology and best practices. It is also a forum connecting information management workers around the world to discuss open access and open data. AIMS represents collaboration and interoperability.

The World Bank have also supported efforts to help countries launch their own open data initiatives, and harness the power of open data to benefit their citizens. A 2017 report⁶³ provides insights into how open data is benefitting countries, what strategies are working well, what could be improved.

The World Bank’s support for open data has taken a variety of forms. To date, 45 Open Data Readiness Assessments (ODRAs⁶⁴) have been completed at national and sub-national levels, which have helped raise awareness and catalyze public and private efforts to advance open data within countries. The Bank has invested in a range of open data learning and knowledge products, including data literacy courses and the [Open Data Toolkit](#), and collaborated with its global partners to support academic research, a series of regional conferences, and open data implementation.

Accountability is the primary purpose of this performance evaluation with lesson learning as the secondary purpose.

EVALUATION SCOPE AND OBJECTIVES

The evaluation will focus on the following areas of inquiry:

- Assess the achievement of the overall impact and outcome targets and whether or not the activities and outputs of the GODAN initiative (GODAN Secretariat and GODAN Action) have

⁶⁰ <https://www.usaid.gov/digitalag>

⁶¹ <https://www.od4d.net/>

⁶² <http://aims.fao.org/>

⁶³ <https://openknowledge.worldbank.org/handle/10986/28616>

⁶⁴ <http://opendatatoolkit.worldbank.org/en/odra.html>

enhanced accountability and transparency, improved service delivery, innovation and economic growth and whether or not there have been any unintended outcomes;

- Assess the programme theory of change (ToC) to see if the logic, supporting evidence and assumptions held up against implementation experience? Is there any evidence which challenges the programme design or rationale?
- Consider whether or not the programme has had a beneficial impact on women in terms of providing a greater voice in decision making; greater choice in opportunities to benefit from paid work and to have sufficient income; and greater control over their income, productive assets and other resources.
- To assess the overall sustainability of the programme.

The cost of conducting a comprehensive evaluation of GODAN Secretariat and GODAN Action would be prohibitive. As the work is not operational, rather it is by nature collaborative, it would also be difficult to realistically evaluation the impact of GODAN’s work and to establish clear attribution. The evaluation will therefore aim to assess both the GODAN Secretariat’s contribution to their stated outcomes and goals as set out in the logframe (outputs 1 and 2) and GODAN Actions contribution to their stated outcomes and goals (outputs 3 to 5). The evaluation will focus on the work since GODAN began in 2014.

KEY EVALUATION QUESTIONS:

DFID will set up a small Evaluation Steering Group to review and agree the ToRs as well as agreeing the final questions.

The standard evaluation criteria recommended by the Development Assistance Committee (DAC) of the OECD form the basis for the evaluation as outlined in the following table with the addition of a criterion on “Equity”. The selected supplier is welcome to propose limited alterations to these questions if needed based on their analysis of the ToRs and relevant programme documents including the theory of change.

EVALUATION QUESTIONS
RELEVANCE
1. To what extent has GODAN improved the standards and interoperability for open data for agriculture and nutrition? (GODAN Action)
2. Are key actors collaborating and committing to actions that will lead to a strengthening of the open agricultural and nutritional data ecosystem in developing countries as a result of GODAN? (GODAN Secretariat)
EFFICIENCY
3. How effective were the governance structures for GODAN Secretariat (including the role of the Donor Steering Committee) as well as the split of work between GODAN Secretariat and GODAN Action? (Both)
EFFECTIVENESS

EVALUATION QUESTIONS
4. How much progress has been made towards an open agricultural and nutritional data ecosystem that facilitates increased supply and use of agricultural and nutritional open data for enhanced accountability and transparency, improved service delivery, innovation and economic growth? To what extent can this be attributed to GODAN Secretariat?
5. Have the tools, stories, case studies, and papers collected and compiled by GODAN Secretariat and GODAN Action equipped key actors to strengthen the open agricultural and nutritional data ecosystem in developing countries? Are there any specific examples of innovations which can be directly or indirectly attributable to the work of GODAN Secretariat and/or GODAN Action?
6. Have the capacity building activities of GODAN changed the way key actors use and publish open data for agriculture and nutrition? (GODAN Secretariat)
IMPACT
7. Have the impact evaluations and impact methodology developed by GODAN Action influenced key actors to change the way they use and publish open data?
EQUITY
8. Has the programme had a beneficial impact on women in terms of providing a greater voice in decision making; greater choice in opportunities to benefit from paid work and to have sufficient income; and greater control over their income, productive assets and other resources? (Both)
9. SUSTAINABILITY
10. What steps have been taken to create or integrate the work of GODAN Secretariat and GODAN Action with long-term processes, structures, norms and institutions for sustaining the investments made by DFID? (Both)
11. What specific lessons are there for other programmes in the following areas: <ul style="list-style-type: none"> • Digital tools for agriculture: What can development programmes focused on digital technology in agriculture learn from the experience of the GODAN programme (GODAN Action and GODAN Secretariat)? • Open data for development: What can development programmes focused on improving open data learn from the experience of the GODAN programme, especially DFID's planned follow-on support to the GODAN Secretariat? • Influencing organisational and governmental policy on data: What can development programmes focused on influencing organisational and government policy on data learn from the experience of GODAN Secretariat

EVALUATION METHODOLOGY

Bidders are invited to propose an appropriate evaluation design and methodology to answer the above questions, and also to set out the potential risks and challenges for the evaluation and how these will be managed. This would be expected to include a combination of desk based and primary data collection. This is a performance evaluation. The GODAN initiative is a rapidly growing network of nearly 1000 partners from government, international and private sector organisations all

committed to making data relevant to agriculture and nutrition available, accessible and usable worldwide. A sample of these partners would need to be consulted as part of the evaluation. It will also be necessary to talk to GODAN action and to include their work in this evaluation.

The methodological approach can be further developed during the inception phase. We would expect a design that takes a mixed methods approach and systematically triangulates evidence. Therefore, a selection/combination of document analysis, interviews, group discussions, meetings, surveys and/or other methods may be proposed in order to most effectively and efficiently meet the objectives of the study within the time available.

The evaluation provider should ensure that the evaluation process is participatory and provides for the equitable participation of female and male stakeholders and that interview, survey, consultations etc samples are representative of the open data community as a whole and of the GODAN group of partners. The proposal should include a clear evaluation matrix (to be further refined in the inception phase) showing how each of the evaluation questions will be addressed, including key data sources and methods.

The evaluation should adhere to international best practice standards in evaluation, including the OECD DAC International Quality Standards for Development Evaluation, the OECD DAC Principles for Development Evaluation, and DFID's Ethics Principles for Research and Evaluation.

Existing contextual and monitoring data will be made available to the evaluation team, including business cases, logframes and annual reviews.

PROPOSAL

7.1 TECHNICAL PROPOSAL

The reviewers in response to these Terms of Reference should provide a technical proposal (no more than 15 pages, excluding annexes) that covers the following:

- A response to the ToR, with an overall approach and design;
- Any amendments to the ToR, including to evaluation questions;
- Details of methods of data collection, storage and analysis;
- Ethical considerations for this evaluation and spell out how they plan to address these. Specifically, suppliers will be expected to have an ethics policy and ethical clearance protocols where appropriate on the use of data to protect confidentiality of individuals and project documents. Bids should set out how they propose to ensure the confidential treatment of project documentation and data collected throughout the evaluation.
- Risks to the evaluation - Bids should demonstrate an active approach to managing risks to the evaluation. They should set out what they think are the main risks to the evaluation and how they will be managed. As GODAN has nearly 1000 partners and works across many countries there is a risk that the evaluation will be too broad to provide real insights on the programme. As mentioned earlier the nature of GODAN's work is collaborative rather than operational and as such it may also be difficult to assess the attribution of any change to the activities of GODAN. It will be important that the successful bidder considers this alongside other risks.

- Approach to quality assurance - set out how they will ensure quality throughout the evaluation;
- Team composition, including skills, experience, roles & inputs;
- A work plan including milestones and timescales;
- How supplier will meet duty of care.

Additionally, short CVs of 1 or 2 pages per team member should be attached.

A separate commercial proposal (no more than 4 pages with pro-formas) that covers the following:

- Fee rates
- Project costs
- Milestone payment schedule
- Demonstrates why the proposal offers best value for money in terms of meeting the objectives of the Terms of Reference whilst ensuring the best use of resources. Also describes the trade-offs that have been considered

Payment will be based on successful delivery and approval of deliverables by DFID.

7.2 BUDGET

The evaluation contract will be delivered over a three-month period as the current programme finishes at the end of 2019. The time frame will enable the contractor to capture key information on the delivery, outcomes and impacts and to inform decisions about any future investments.

The exact timeline and deliverables will be agreed between DFID and the contracted supplier before formal contracting.

The supplier must provide a budget summary that breaks down all costs in delivering this TOR. The maximum ceiling for this budget is £100,000.

The budget must include fee rates and any other charges for all personnel involved in the delivery of this TOR, including the exact time that they will be expected to spend on this contract over the contract period. Travel and expenses should be in line with DFID standard policy.

7.3 KEY DOCUMENTS:

- Business Case (GB-1-203202)⁶⁵
- DFID Annual Reviews¹²;
- Range of tools, publications and background documents www.GODAN.info;
- Other useful background on open data <https://www.od4d.net/>

7.4 SKILLS AND QUALIFICATION OF EVALUATION TEAM

The team undertaking this work will need to demonstrate significant experience and expertise in the following areas:

⁶⁵ <https://devtracker.dfid.gov.uk/projects/GB-1-203202/documents>

- An understanding of open data programmes and policy and assessing impact.
- An understanding of agriculture and nutrition programmes and policy.
- Proven experience in evaluation and review design including quantitative and qualitative research methods to conduct studies to academic standards.
- Understanding the strengths and limitations of different methodological approaches and how to accurately interpret data.
- Ability to communicate findings in an accessible way for technical and non-technical readers, including presentation of data in visually appealing ways & well-structured rigorous summaries of findings.
- Experience of reviewing or evaluating DFID programmes
- Demonstrated understanding of relevant evaluation standards and norms, including OECD-DAC standards on evaluation.
- Demonstrated understanding of relevant evaluation codes of conduct and ethics, including DFID's Ethics Principles for Research and Evaluation.

Bidders must include CV's of all proposed team members and their roles in delivering this TOR as part of their bid.

Submissions will be assessed on the basis of the relevant experience demonstrated in the bid, the strength of the suggested methodology and overall approach of the evaluation, as well as value for money. Bidders for this tender must declare any potential conflict of interest in their tender documents.

DELIVERABLES AND TIMEFRAME

The key deliverables for this TOR are as follows:

- **Inception report** outlining detailed approach and workplan - The inception report will refine the information presented in these Terms of Reference to bring greater precision to the planning and design of the assignment. It will be based on a preliminary review of the documentation and initial discussions with key stakeholders during the inception phase. The inception report will also include a draft communications and dissemination plan.
- **Draft and Final report** - The successful bidder must prepare a draft and final report that describes the evaluation and proposes the findings, conclusions, recommendations and lessons learned, including a high level no more than two-page Executive Summary. The overall report, excluding annexes, should be no more than 30 pages.

The successful bidder is entirely responsible for the quality of the reports and must follow OECD/DAC (2010) Quality Standards for Development Evaluation for the report. The successful bidder is responsible for accurately representing and consolidating the inputs of all stakeholders the report. The reports must be readily understood by the intended audience. The structure of the report should allow for a clear and logical flow of information from beginning to end. The report will be written at a level of quality and standard consistent with senior professional services (i.e. does not need to be significantly edited or re-written).

The draft and final reports should follow the DFID template for evaluation reports (Annex 1).

An indicative timeline is provided below:

- Start date and kick off meeting: week 1
- Inception report due: end of week 2
- Feedback provided on Inception report: end of week 3
- Inception report approved: end of week 4
- Main evaluation: weeks 5-8
- Draft report due: end of week 10
- Feedback on draft evaluation provided: end of week 11
- Final report due: week 12

The timeframe for delivery will be developed in consultation with the Evaluation Steering Group by the successful bidder during the inception phase, however, there is a need for findings to be available to feed into the new programme as far as possible, and this should be kept in mind.

ROLES AND RESPONSIBILITIES

The work of this assignment will be guided by a DFID steering group (to be comprised of representatives from Data for Development and the Agriculture Teams).

The Contractor should be prepared to operate independently for the duration of the contract, this includes logistical support. The Contractor will be responsible for the overall design, implementation, and contribution to dissemination of the evaluation, including the following specific responsibilities:

- Developing a rigorous evaluation design;
- Developing evaluation materials that are held to international standards;
- Ensuring data quality during collection and entry through supervision and management;
- Leading data cleaning, analysis, and interpretation of results;
- Providing technical quality assurance on performance and all deliverables;
- Disseminating deliverables to DFID and other stakeholders. Contribute to public dissemination efforts.

Rachael Beaven is the direct contact point for the evaluation. DFID will set up a steering group which will provide advice on:

- Strategic direction on the focus of the evaluation, including associated risks; and
- Review of and feedback on the factual and contextual accuracy of all deliverables.

It is expected to include: Senior Statistician, Agriculture Research Team and an Innovation Adviser. Further DFID members of staff and/or external stakeholders who are not involved in implementation of the programme may also be appointed.

The Contractor will provide brief monthly updates to DFID on the progress of the evaluation. Liaison will include up to four meetings, which shall take place in London, but may involve teleconferencing or video conferencing with Steering Group members working elsewhere. The team, also, may use tele/video conferencing but should budget for attendance in London of core members at a minimum of one meeting during inception and the presentation.

The Contractor should liaise with the programme partners as agreed by DFID while maintaining an independent evaluation. DFID will agree with programme partners that they work with the Contractor as required to ensure that monitoring data adequately informs the evaluation.

DUTY OF CARE

The Contractor is responsible for the safety and well-being of their Personnel and Third Parties affected by their activities, including appropriate security arrangements. They will also be responsible for the provision of suitable security arrangements for their domestic and business property.

The Contractor is responsible for ensuring appropriate safety and security briefings for all of their Personnel working under this contract and ensuring that their Personnel register and receive briefing as outlined above. Travel advice is also available on the FCO website and the Supplier must ensure they (and their Personnel) are up to date with the latest position. The Supplier should adhere to DFID's duty of care (see Annex 2).

OTHER REQUIREMENTS

The Contractor will determine the most effective form of the delivery for this evaluation ensuring value for money in terms of expertise, structure and capability in their bids and explaining why the proposed approach offers best value for money. The Contractor will be selected following competition.

The Contractor should demonstrate that they have the range of skills and capability required to effectively design, plan and deliver all the requirements set out in the ToR above. Where there is a consortium or partnership, the lead supplier will be expected to manage the consortium and lead the effective design, management and implementation of the evaluation and take action to tackle any poor performance.

The Contractor will be required to demonstrate a strong commitment towards transparency, financial accountability and due diligence of approved partners, and to exhibit zero tolerance to corruption and fraud. The Contractor will need to comply with DFID's policies on fraud and anti-corruption and cooperate with checks and balances programme staff will require from them for the duration of the evaluation.

All evaluation outputs, including design, will be subject to DFID quality assurance processes.

The Contractor grants DFID an irrevocable right to publish and re-use the outputs from the evaluation.

ANNEX 1: DFID TEMPLATE FOR EVALUATION REPORT

The draft and final evaluation reports should be around 25 pages long, including a 3-5 page executive summary and 1 page summary. Additional annexes may be provided to the report as agreed in the original terms of reference.

Summary	The one page summary must be well presented, using images and graphics to demonstrate key findings and be of a sufficient quality to be printed as an A3 poster.
Executive Summary	The executive summary provides an overview of the report, highlighting the main findings, conclusions, recommendations and any overall lessons.
Context	The context briefly describes the policy, development and institutional context of the development intervention. It should also describe and assess the intervention theory of change. Finally, the context should outline the top level questions which are detailed in the Terms of Reference and which form the basis for the report.
Purpose, scope and focus	The scope should be brief, with the majority of detail in the annexes.
Evaluation Work Plan	This section should set out the framework/plan used for the evaluation
Limitations	This section must also set out any limitations in process, methodology or data, and discuss validity and reliability.
Findings	Findings describe the judgements reached in the evaluation and link back to the top level questions which are detailed in the Terms of Reference
Conclusions	Conclusions should draw together the analysis and findings in a logical flow.
Recommendations	This section usually includes up to 10 key recommendations which are specific, clearly articulated and action orientated. Recommendations are usually agreed in consultation with the policy programme team in advance of the final evaluation report being published.
Learning	The learning section captures key lessons for DFID on what worked well and what was less successful to feed back into future policy and programmes. Learning can be wider and have a more systemic focus than the conclusions.
Annexes	Annexes will include methodology, data sources, analysis, stakeholder comments, validity and reliability of information sources, terms of reference, management response (although this may take longer and be presented separately) and other products agreed in advance with the commissioning team.

ANNEX 2: DUTY OF CARE

The Contractor is responsible for the safety and well-being of their Personnel and Third Parties affected by their activities under this contract, including appropriate security arrangements. They will also be responsible for the provision of suitable security arrangements for their domestic and business property.

DFID will share available information with the Supplier on security status and developments in-country where appropriate. DFID will provide the following:

All Contractor Personnel will be offered a security briefing by the British High Commission/DFID on arrival. All such Personnel must register with their respective Embassies to ensure that they are included in emergency procedures.

A copy of the DFID visitor notes (and a further copy each time these are updated), which the Supplier may use to brief their Personnel on arrival.

The Contractor is responsible for ensuring appropriate safety and security briefings for all of their Personnel working under this contract and ensuring that their Personnel register and receive briefing as outlined above. Travel advice is also available on the FCO website and the Contractor must ensure they (and their Personnel) are up to date with the latest position.

Tenderers must confirm in their proposal response that:

- They fully accept responsibility for Security and Duty of Care.
- They understand the potential risks and have the knowledge and experience to develop an effective risk plan.
- They have the capability to manage their Duty of Care responsibilities throughout the life of the contract.

In providing evidence Tenderers should consider the following questions:

1. Have you completed an initial assessment of potential risks that demonstrates your knowledge and understanding, and are you satisfied that you understand the risk management implications?
2. Have you prepared an outline plan that you consider appropriate to manage these risks at this stage (or will you do so if you are awarded the contract) and are you confident/comfortable that you can implement this effectively?
3. Have you ensured or will you ensure that your staff are appropriately trained (including specialist training where required) before they are deployed and will you ensure that on-going training is provided where necessary?
4. Do you have an appropriate mechanism in place to monitor risk on a live / on-going basis (or will you put one in place if you are awarded the contract)?
5. Have you ensured or will you ensure that your staff are provided with and have access to suitable equipment and will you ensure that this is reviewed and provided on an on-going basis?
6. Do you have appropriate systems in place to manage an emergency / incident if one arises?

If you are unwilling or unable to accept responsibility for Security and Duty of Care as detailed above, your proposal will be viewed as non-compliant and excluded from further review.

