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The U.S. Government's Global Hunger & Food Security Initiative

**Technical Report Series No 1:**  
Measuring Resilience in the Horn of Africa

REPORT 1

# **Preliminary review of datasets** to inform the development of IGAD member state baselines

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This report is prepared by experts for the Technical Consortium for Building Resilience in the Horn of Africa. For more information on the Technical Consortium contact Dr. Katie Downie - [k.downie@cgiar.org](mailto:k.downie@cgiar.org).

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# Acronyms

AfDB	African Development Bank
ASALs	Arid and semi-Arid Lands
CAADP	Common Africa Agricultural Development Plans
CGIAR	Consultative Group on International Agriculture Research
CPPs	Country Program Papers
CSOs	Civil Society Organizations
DDI	Data Documentation Initiative
DEPHA	Data Exchange Platform for the Horn of Africa
DPs	Development Partners
DRMFSS	Disaster Risk Management and Food Security Sector
DRR	Disaster Risk Reduction
EWS	Early Warning System
GA	Global Alliance
HoA	Horn of Africa
ICT	Information Communication Technology
IPC	Integrated Food Security Phase Classification
IDDRSI	IGAD Drought Disaster Resilience and Sustainability Initiative
IFPRI	International Food Policy Research Institute
IGAD	Inter-governmental Authority for Development [check]
ILRI	International Livestock Research Institute
KBS	Kenya Bureau of Statistics
LAP	Livelihoods Analysis Project
M&E	Monitoring and Evaluation
MHVM	Multi-Hazard Vulnerability Mapping System
MS	Member states
OpenDRI	Open Data for Resilience
PRIME	Pastoralists' Areas Resilience Improvement and Market Expansion
RCMRD	Regional Centre for Mapping of Resources and Development
REGAL	Resilience and Economic Growth in the Arid Lands
RHOK	Random Hacks of Kindness
RMG	Research Methods Group (ILRI)
SAFE	Scenario Assessment for Emergencies
TC	Technical Consortium
UN	United Nations
UNGIWG	UN Geographic Information Working Group



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# Introduction

# 1

The Technical Consortium for Building Resilience in the Horn of Africa (TC) is a project of the CGIAR, which was formed in 2011 following the effects of the 2011-2012 drought. The main aim of the Technical Consortium initially was to provide financial and technical support to the Intergovernmental Authority on Development (IGAD) and its member states (Djibouti, Ethiopia, Kenya, Somalia, South Sudan, Sudan and Uganda) to formulate regional and national investment programmes for the long-term development of ASALS and to follow this with technical support, with particular focus on monitoring and evaluation and the targeting of investments within these plans. These investment plans became the Country Programme Papers (CPPs) for drylands projects for the Member States and the Regional Programming Framework (now the IGAD Drought Disaster Resilience Sustainability Initiative (IDDRSI)), which focused on investment plans to address regional issues for IGAD. The focus of the TC's work at present is to collaborate with different partners, specifically including the governments in the region as their plans develop, to provide tools for measuring the impact of investments on enhanced resilience and to develop decision support tools for better targeting and prioritization of investments or projects. These tools will not only be useful for monitoring the impact of interventions within the national drylands investment plans and provide evidence for rational decision-making and prioritization, but will be applicable for donors, developments, NGOs and civil society when measuring or targeting their projects.

It has been noted that there is a gap between the strategies that decision makers use to allocate policy-related investments for ASALS and the analytical techniques that researchers use to model the conditions of ASALS and assess the impact of related interventions. To help bridge this gap, the TC has been working to develop and apply approaches to support evidence-based decision-making and investment prioritization to enhance resilient development trajectories in Horn of Africa (HoA).

The result will be a toolbox of methodologies and application processes that facilitate the capacities of the IGAD member states to identify the investments with greatest potential for the highest impact to build resilience to shocks and stressors, in particular to drought, in the HoA. The toolbox will be tailored to elucidate the implications of more focused interventions, for a more specific sub-population of interest, as those details are specified by IGAD or the member states. It will also be able to test how well investments perform under different conditions (climatic and otherwise) and over varied time horizons. The toolbox will be of use to multiple audiences, but the primary focus for application will be to provide tools for the Government of Kenya (GoK) National Drought Management Authority (NDMA), to assist with decision analysis and prioritization for investment proposed in the Kenya Ending Drought Emergencies Common Programme Framework (EDE CPF) drylands investment plan. It is also assumed, however, that the conceptual analysis and knowledge gained in the provision of tools to the GoK

NDMA will also be of use to other clients such as NGOs, donors and development partners to assist with their decision making processes and that these tools will also have potential for replication in the remaining IGAD member states.

The activities detailed in this report form part of the work necessary to provide a foundation upon which to develop these tools. The TC aims to provide the IGAD member states with baseline datasets and appropriate resilience-sensitive indicators against which to measure the impact of investments, projects, interventions and activities on enhanced resilience of populations in the HoA. As a first step in satisfying this mandate, it was necessary to take stock of what types of data are available in the region that could assist in establishing a baseline reference for the IGAD member states. To this end, a scoping of data sets using key informant interview and extensive consultations in the region. In addition, a review of existing data cataloguing options to house catalogues of meta-data on resilience-sensitive indicators took place focusing primarily on interoperability of data with respect to existing catalogues in the region, such as the use of Socrata by the Kenya Open Data initiative, or the choice of CKAN for the housing or data for the CGIAR International Livestock Research Institute (ILRI). What follows is a report of the process.

# The process for establishing IGAD member state baseline datasets

## 2

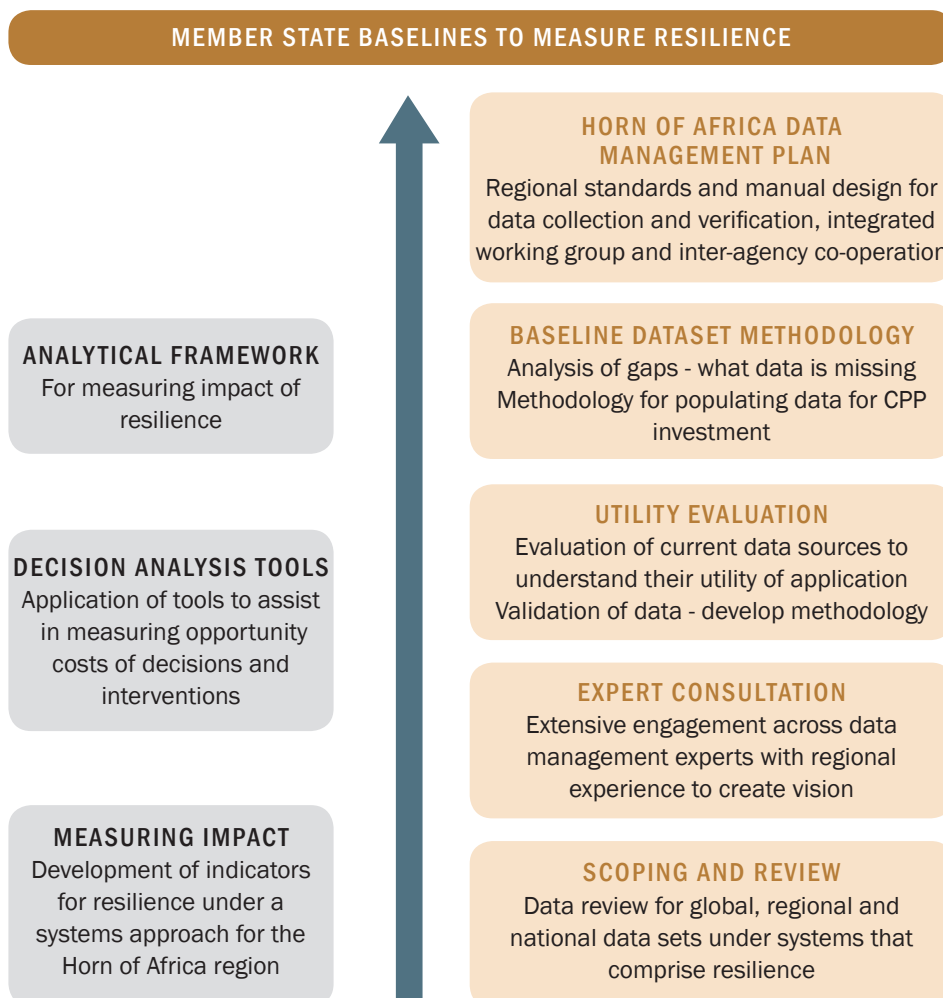
### Goal

National baseline datasets for member state countries in the Horn of Africa

### Purpose

- Which can be used to evaluate impact of investment on resilience and growth
- Which form the basis for data input into conceptual frameworks for investment planning and mapping, including technology and innovation data and monitoring and evaluation

Figure 1: Use of member state baselines to measure resilience



## The rationale for resilience

One of the key features of initiatives that emerged from consultations between donors, development partners and governments was a focus on “resilience,” or the ability of households, communities and systems to manage change or adapt to stresses, without compromising future development prospects<sup>1,2</sup>. A resilience approach to development seeks to go further than solely reducing vulnerability, and aims at preventing repeated stresses and shocks from continually undermining development prospects. The rationale behind investing in resilience is to institutionalize a more cost-effective approach that produces sustainable results rather than the traditional model of post-disaster responses. A key element of a resilience approach is therefore to understand and address the underlying factors that contribute to vulnerability and poverty.

The Technical Consortium contributed to the February 2013 Summary of the Expert Consultation on Resilience Measurement for Food Security, which resulted in 10 key resilience measurement principles emerging:

1. Is a dynamic process
2. Is context-specific – evaluators must always ask “resilient to what” and “resilience among whom”
3. Changes over time – measurement should be based on panel data if possible
4. May operate non-linearly, making critical tipping points important to capture
5. Should be measured by those who have the technical capacity to conduct complex analyses
6. Measures should account for cultural factors
7. Operates at multiple levels including individual, household, and community levels – measurement should reflect these levels
8. Measures should consider the dynamics between the different levels on which it operates
9. Is comprised of psycho-social factors, in addition to more traditional economic factors
10. Measures should capture the state of natural resources in a given community

The approach of the Technical Consortium, to understand resilience under key systems complements the growing community of practice working on evidence based resilience measurements. It also complements the work USAID is making toward M&E with impact evaluations focused on looking at different capacities:

- Adaptive (i.e., productive assets, access to social networks, aspirations)
- Absorptive (i.e., relying on safety nets)
- Transformative (i.e., early warning systems)

By engaging directly with the Intergovernmental Authority on Development (IGAD) and the Global Alliance (GA) the Technical Consortium is aiming to actively strengthen resilience through a robust approach to M&E. This includes extensive and continuous stakeholder engagements to share learning and outputs in order to actively link with the development of a common regional framework that can incorporate key indicators, ultimately helping to align different programmes and encourage accountability.

<sup>1</sup> IRWG. 2012. The Characteristics of Resilience Building: a discussion paper. Interagency Resilience Working Group - PPA Resilience Learning Partnership Group; Bond Disaster Risk Reduction Group; Bond Development and Environment Group.

<sup>2</sup> Frankenberger, T., Langworthy, M., Spangler, T., & Nelson, S. 2012. Enhancing Resilience to Food Security Shocks - Draft White Paper. Tango International, Inc.



# The regional context

## 4

The Horn of Africa is a highly dynamic region with complex interactions between bio-physical contexts which produce different livelihood outcomes across the Region. The primary context of the Horn of Africa is arid and semi-arid lowlands (ASALs) spread across Djibouti, Ethiopia, Kenya and Somalia, but the Horn also encapsulates South Sudan, Sudan and portions of northern Uganda. Livelihoods vary considerably and the unique dryland context requires requisite attention to livelihoods such as dryland crop production strategies and pastoralism, which is highly prevalent. This dynamic state means focusing the assessment of impact around enhanced resilience and growth will have implications across investment planning, development programming and humanitarian assistance. This is due to resilience, through its conceptual outlay which integrates multiple 'systems' and on the ground actions and interventions, has the potential to link these three areas of intervention in the region. This move toward resilience has been part of a wider paradigm shift, appreciating the needed for much longer terms of evaluation and implementation to create changes and move toward more sustainable outcomes through a multi-dimensional and integrated method.

The approach of evaluating against resilience outcomes is pragmatic for the Horn of Africa Region due to its complex history and emerging patterns of change. Acute food security crises have arisen, notably the recent 2011 drought and are caused by multiple factors. The increasingly restricted mobility of pastoralists, changing social structures and family support systems, population growth, conflict and highly dynamic weather patterns have all contributed to the current context in the Horn.

Since the last drought in the HoA in 2011, IGAD and its member countries have shown strong political commitment to end the human suffering associated with drought and to mitigate its socio-economic and environmental effects. Based on a dialogue between the various stakeholders including governments, development partners (DPs), and Civil Society Organizations (CSOs), IGAD launched the IGAD Drought Disaster Resilience and Sustainability Initiative (IDDRSI) with the aim of harmonizing and aligning efforts along common approach, guiding principles and architecture for intervention in six key areas. This common framework also includes a section on the definition of regional activities to address cross-border issues, and for coordination relief-development mechanisms in the country. With the support of the TC, the seven countries took the lead in developing their respective CPP using the common architecture to identify their specific priorities and define their strategies and institutional arrangements for enhancing drought resilience.



# 5

## Why is measuring resilience difficult?

- Resilience is difficult to measure as it cannot be represented by one, easily defined or quantified variable. It is rather, the accrual of multiple variables across multiple systems that in their dynamic interaction, represent the ability of interconnected systems to maintain their system resilience and identity, while contributing to an outcome, which represents this cumulative product.
- Resilience is highly contextual and the current linear and causal socio-ecological models are inadequate to understand the micro, meso and macro processes of the relationships between stressors, components of community, social and ecological capital and outcomes. Building resilience is rarely a linear, cumulative process, increasing as each composite component improves. The dynamic interaction between components or variables is critical. An increase in one variable may produce, sometimes drastic, reductions in another, resulting in an overall drop in resilience. For example the creation of a permanent water sources (say a borehole) in an arid pastoral area is a typical drought mitigation measure aimed at improving human and animal health and productivity. During a drought however this could have the negative affect of increasing conflict between communities and / or overgrazing of the surrounding land resulting in environmental degradation. Attempting to anticipate and understand these dynamics and their impact on resilience is a major challenge.
- Disaster resilience also implies the need to measure how the variables affecting resilience are affected by disturbance. Again the range, nature and magnitude of disturbances affecting populations in the ASALs are multiple. Modelling the actual or potential impact upon resilience adds another layer to the whole measurement model. It entails identifying not only resilience but resilience to what?
- Finally the overall goal of the IDDRISI strategy is to create “disaster resilient communities, institutions and ecosystems”. This means any resilience monitoring framework needs to outline how resilience should be measured (with all the aforementioned challenges) for each of these units of analysis. It is not clear whether the variables that affect and result in community level resilience are the same as those that make an eco-system or an institution resilient. Even the term ‘community’ needs to be clearly defined when establishing the appropriate monitoring data required to measure disaster resilience.

# The **Technical Consortium** approach

## 6

Resilience is multi-faceted, and in order to try understand it better it can be seen as a range of variables and sub-variables operating under two distinct ‘systems’; bio-physical, socio-economic and linked by a further ‘system’ which entails policy and institutional factors. Factors under the bio-physical system include climate and weather indicators, the underlying ecosystem health and interactions with crops and livestock. The socio-economic system entails factors such as human capital, social structure, actions and norms and economic aspects such as income, savings and assets. The third system of policy and institutional factors integrates facets such as political capital where capacity, infrastructure and response strategies all come into play considering the historical context of the Horn Region.

In addition to these three key systems, resilience can be viewed over varying spatial scales such as individuals, households and communities and temporal scales such as seasons, annually or across a program lifespan. Resilience also requires a different approach as it is a dynamic process, rather than a static achievement, and therefore requires attention to both the development of strategies and interventions but also importantly in the development of monitoring and evaluation (M&E) around indicators that can evaluate how a specific investment has moved toward enhanced resilience and growth.

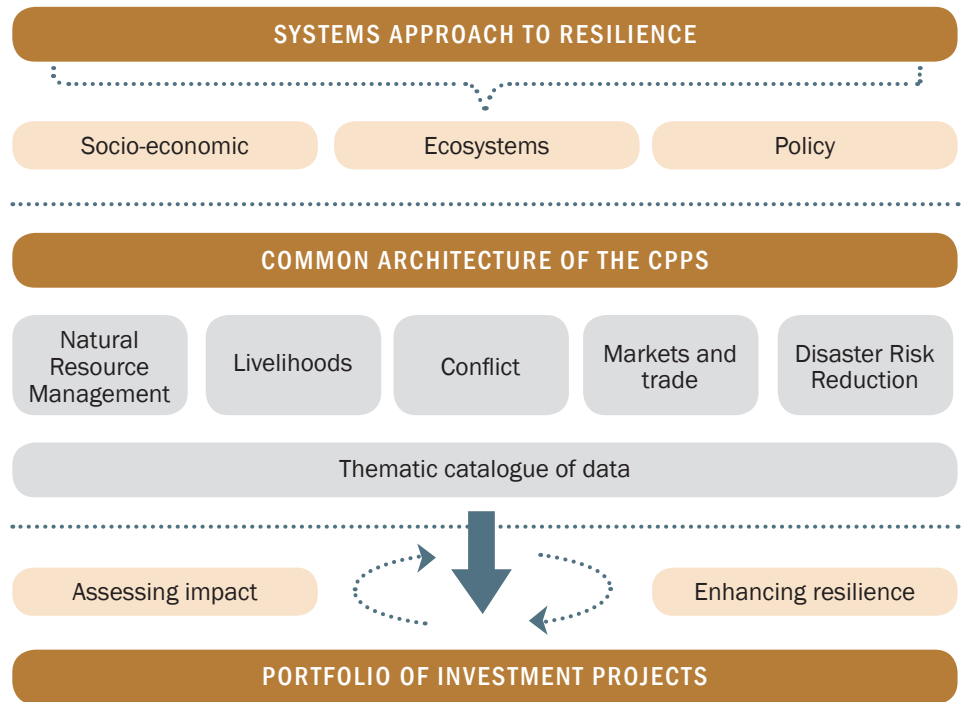
In order to measure the impact of investment, indicators to measure the impact of these investments will have to be drawn from multiple sectors. In addition these indicators and a range of thematic organized along a systems perspective. Global scale data such as demographic and population, economic and productivity, land use and coverage linked into regional and national policy and its influence on the risk reliance.

The availability of a comprehensive baseline dataset will enhance the ability of agencies to monitor their interventions and to assess impact of the same, in addition to improving the ability to more intelligently target areas of increased risk and vulnerability with appropriate assistance.

Consequently the development of the baseline data sets is being imbedded with the IGAD common architecture to allow a fluid process of evaluation. The investment portfolio is drawn from investment options detailed in Annex 2 of the Country Program Papers. These investment options are divided by the sectoral classification according to the IGAD common architecture.

These sectors are: Natural Resource Management, Livelihoods, Market & Trade, Conflict, Disaster Risk reduction and Knowledge Management. The indicators that populate the national baseline data sets will be categorized through these themes to ensure requisite data standards exist to create baselines from which to measure impact.

Figure 2: Approach to creating baselines under the IGAD common architecture



# Data hosting platform

7

Before the data scoping commenced a brief evaluation of potential hosting platforms suitable for the Horn of Africa region and member states data use and sharing requirements was carried out. This desktop evaluation was complemented by expert consultation and feedback on suitable data hosting platforms with the International Food Policy Research Institute (IFPRI), of the primary CGIAR partners of the TC. The TC has extensive consultations with IFPRI drawing on their expertise and experience in collating and hosting multiple data sets, for example their HarvestChoice development. The ultimate aim is for the Horn of Africa platform to be complementary across multiple institutions so as the work stream to development common taxonomies and ontologies for the resilience data scoping occurs, this can be shared with key regional players engaged in storing and accessing data.

## Socrata

As well as agencies such as USDA, Socrata is being used by the Kenya Open Data as their key-hosting platform and therefore provides a useful evidence base to determine its applicability for regional data working requirements. A webinar between IFPRI and the Technical Consortium and Job Pringle, a database developer from Socrata occurred to discuss the functionality and applicability to the Horn of Africa region and based upon the analytical framework for resilience

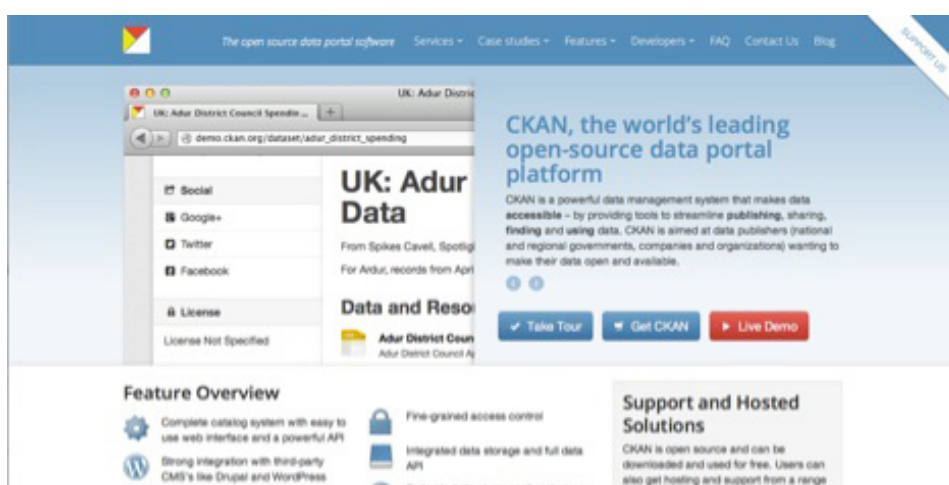
The screenshot shows the Socrata website homepage. At the top, there is a navigation bar with links for Home, Solutions, Customer Spotlight, Discover, Company, and Newsroom. Below this is a large blue banner with the text 'Introducing The Open Data Field Guide' and a 'Start Here' button. The banner also features a list of client logos including the City of Chicago, City of New York, City of Berkeley, State of Maryland, State of Colorado, County of Alameda, The People's State, City of Baltimore, State of Oregon, and more. Below the banner are three featured content blocks: 'Read Our Playbook for Open Data', 'Get the GovStat How-To Guide', and 'Watch Our Latest Hangout'. A footer contains a 'Contact Us' link.



and its data requirements. A demonstration of key functionalities occurred followed by a question and answer session.

The key outcomes of which showed the excellent range of functionalities, categories and back-end metadata support which Socrata is able to host. However the hosting and maintenance is in the region of \$3000 depending on the project, and therefore its sustainability for member state management is questionable. A follow up engagement with Joe Pringle at Socrata is underway to determine possible ways around a maintenance fee and to determine if Socrata may be acquired by ESRI and the implications of this for longer-term engagement.

## CKAN



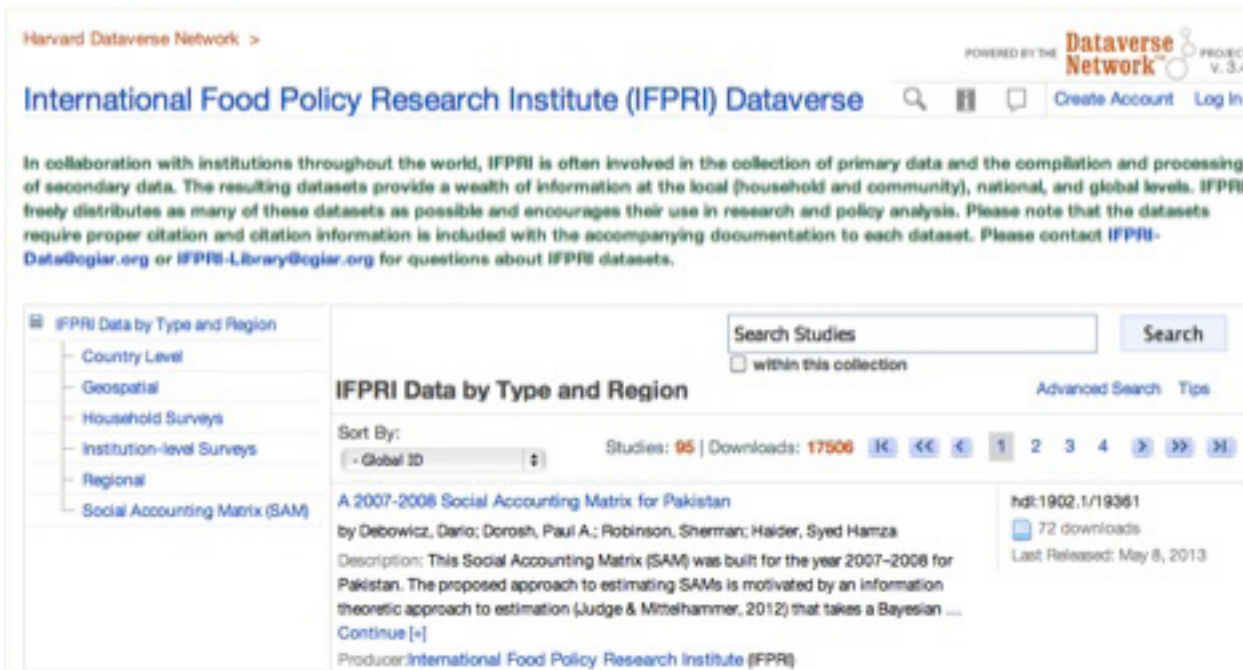
Another option for database hosting that has been explored is CKAN (<http://ckan.org/>). IFPRI have carried out initial consultations with their development team in the UK. The platform is open-source, contrary to Socrata, however the costs involved are linked to the initial development, customization and hosting to set the data system up.

As analysis continues around the usability and application of Socrata, the initial step with the data that has been catalogued is to begin referencing the data with <http://datahub.io/> which is a publically hosted version of CKAN. CKAN has a developers network and a data standard for ensuring a normative framework across Africa for Open data. Once catalogued in this manner, and as the work program around common taxonomic and ontological development evolves the data can be migrated to a common system. This will occur in line with development around the World Bank open data system.

## DataVerse

Dataverse is a virtual web archive that contains data studies which can be customized by and managed by its administrator or owner. The Dataverse Network is an open-source application for publishing, referencing, extracting and analyzing research data. The Dataverse Network software, allows an institution to host multiple individual virtual archives, called "dataverses" for scholars, research

Figure 3: Example of a DataVerse from IFPRI



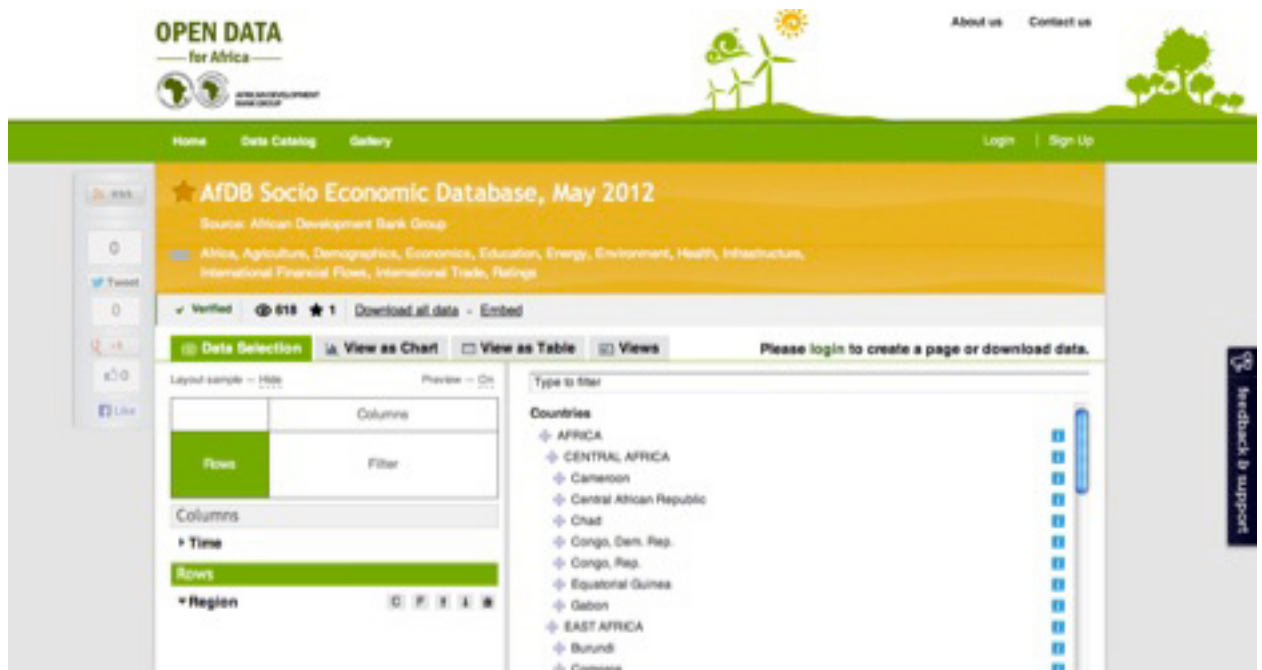
groups, or journals, providing a data publication framework that supports author recognition, persistent citation, data discovery and preservation. Dataverse require no hardware or software costs, nor maintenance or backups by the data owner, but still enable all web visibility and credit to devolve to the data owner

Feedback from IFPRI experience has shown that DataVerse is not good for large data sets and doesn't take spatial data at high resolution.

## African Development Bank

The African Development Bank (AfDB) has been leading on continental efforts to push toward open data, with the launch in early 2013 of their Open Data Platform (<http://opendataforafrica.org/>).

Initially this is focused on 20 countries, those located in Horn of Africa region include Ethiopia and South Sudan. The platforms for the rest of the countries are expected to be complete in the next month with the aim to allow users to access a wide range of data from AfDB portals covering themes such as agriculture, economics, demography, education and energy etc. The aim of the open data platform is part of a wider strategy by the AfDB on an 'African Information Highway' with the aim of creating and installing a common Information Technology platform in all 54 countries and 16 sub-regional and regional organizations in Africa. The portal therefore serves as a mechanism to establish live data links between the AfDB, National Statistical Agencies, Central Banks and Line Ministries across the African countries. In addition to link countries and external development partners together.



The establishment of the platform follows protocol under the global effort articulated in the Busan Action Plan for statistics (BAPS). The aim of the agreement is to “implement a global Action Plan to enhance capacity for statistics to monitor progress, evaluate impact, ensure sounds, results-focused public sector management and highlight strategic issues for policy decisions.”

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<sup>5</sup> Crop costs and revenues aren’t precisely market prices but are made up of other variables that are market prices such as input costs for growing irrigated crops, and average yields and prices for the finished crops in the region of the pilot project

# Expert consultation



## 8

In order to formulate a regionally relevant approach, and ensure the scoping and review of data was comprehensive an extensive consultation with various stakeholders has been carried out. This has been targeted at data experts, agencies and interventions operating within the region to understand best practice with regards to cataloguing of data. However the scoping has also included gaps in knowledge, technical systems in operation and the most pragmatic data storage system and management of data. This scoping has allowed the formulation of the activity plans to be based on a demand driven, evidence based rationale that draw together the key feedback, programmatic areas and experience of these multiple agencies. The stakeholder engagement has also been critical in preparation for a platform that will ensure compatibility of data access and search functions across multiple institutions and link key data stakeholders and partners operating within the region.

Experts across multiple agencies have been part of the initial consultations. The value of this approach has been to ensure complementarity of the TC approach, building in existing critical knowledge. Enhancing resilience is dependent upon building long-term commitments, which means much longer time frames than traditional project or programmes, and is dependent upon building stronger partnerships with regional governments and agencies to make a success.

On the following page:

Table 1: Key agencies and personnel that have been involved in the stakeholder engagement and consultations

NAME	STRATEGIC AREA	FOCAL CONTACT	DISCUSSION AREA AND OUTCOMES
<b>AGENCIES</b>			
World Bank	Leading on Open Data for Resilience (OpenDRI)	<ul style="list-style-type: none"> <li>■ Emma Philips – Disaster Risk Management Specialist Africa Region</li> <li>■ Jude Mwenda – specialist data consultant based at RCMRD</li> </ul>	<ul style="list-style-type: none"> <li>■ Three month plan of engagement to assist in the second iteration of the OpenDRI platform and to link the spatial expertise of the TC with the development of an ‘impact calculator as one of the longer term output.’</li> </ul>
UN OCHA – Eastern Africa	Resilience scoping	<ul style="list-style-type: none"> <li>■ Sanjay Rane – Information management officer UN OCHA</li> </ul>	<ul style="list-style-type: none"> <li>■ Co-ordination and linking partners engaged with resilience activities</li> <li>■ Assisting with chair on partnerships for resilience</li> </ul>
UNISDR – Office for Africa	Disaster reduction	<ul style="list-style-type: none"> <li>■ Animesh Kumar – Programme Office &amp; DRR specialist</li> </ul>	<ul style="list-style-type: none"> <li>■ Key focal point for DRR activities whilst seconded to DRMFSS in Ethiopia. Key advisor to government</li> <li>■ Need for shape-file standardization to allow regional comparisons of information</li> <li>■ Link inter-agency forum on Disaster Risk to member state working group development</li> <li>■ Archives of data and validity for application</li> <li>■ Standardization to work at administrative boundaries rather than approaches such as livelihoods for regional congruence of data for analysis</li> <li>■ Critical for scale understanding – at what level is data summed up</li> </ul>
United Nations – Data Exchange Platform for the Horn of Africa (DEPHA)	Horn of Africa data collection development	<ul style="list-style-type: none"> <li>■ Tom Bakkum – Director of The Energy and Resources Institute (previously UNDP)</li> </ul>	<ul style="list-style-type: none"> <li>■ UN inter-agency initiative for open data access on the Horn of Africa Region</li> <li>■ Giorgio Satori was involved as chief strategist and on data acquisition, with Tom Bakkum focused on the conceptual development</li> <li>■ The top-down structure ultimately failed as an interagency engagement</li> <li>■ Found it was critical to engage experts on data rescue and essential any endeavor like this has a strong element on capacity development</li> <li>■ Key area and need for focus is defining metadata standards and protocols.</li> </ul>
UNICEF	Data availability	<ul style="list-style-type: none"> <li>■ Eddie Addai - Regional Chief, Monitoring and Evaluation</li> <li>■ Joanna Bosworth - Senior Social Policy Specialist</li> </ul>	<ul style="list-style-type: none"> <li>■ Engagement on programmes and existing data sources</li> </ul>



WFP	Mapping of donor investment	<ul style="list-style-type: none"> <li>John McHarris</li> </ul>	<ul style="list-style-type: none"> <li>How to integrate the mapping of donor investment and techniques, with the decision analysis tools to work towards standardized databases.</li> </ul>
FAO-SWALIM	Somalia data experts and authors of land and water atlas	<ul style="list-style-type: none"> <li>James Ngochoch – GIS Officer</li> <li>Evelyn Karanja – information officer</li> </ul>	<ul style="list-style-type: none"> <li>Development of SWALIM database</li> <li>Data for Somalia</li> <li>Integration into standards and protocol development</li> </ul>
IGAD	Regional Drought Resilience Initiative	<ul style="list-style-type: none"> <li>Chucri Sayegh – GIZ Advisor</li> </ul>	<ul style="list-style-type: none"> <li>Development of a member state lead expert working group on data.</li> </ul>
FAO	Disaster Risk reduction & data management	Phil Fong	<ul style="list-style-type: none"> <li>Mapping of DRR projects in the Horn of Africa</li> <li>Key steps in data collection and capacity requirements with national statistical agencies</li> <li>Key steps include deciding on indicators for resilience and focusing methodological and defined problems</li> <li>Methodology needs to focus on a unit of measure and importantly decide on the definition of resilience, scope and scale as well as indicators</li> <li>Engagement and use of IPC to draw on experience as it went through a vigorous peer review and analysis for 7 years to launch. It also provides a good example of a methodology toward classification</li> <li>The need to include demand side approach</li> <li>Once the definitions and key indicators of resilience have been decided, engage key agencies under the themes they have expertise on, especially specific dynamics and interactions</li> </ul>
Regional Centre for Mapping of Resources for Development (RCMRD)		Patrick Kabatha - Geo-Spatial Data Specialist	<ul style="list-style-type: none"> <li>Sharing of catalogue and development of categorization and theme layout.</li> </ul>
USAID East Africa	Resilience programs		<ul style="list-style-type: none"> <li>How to ensure the M&amp;E developments draw on the Pastoralists Resiliency Improvement and Market Expansion (PRIME) evaluation in Ethiopia will investigate how market development and natural resource management promote resilience among pastoralists.</li> <li>In addition the Resilience and Economic Growth in the Arid Lands (REGAL) evaluation in Kenya, looking at programming that layers humanitarian aid atop development aid to bolster resilience in the arid lands.</li> </ul>

GOVERNMENT			
Kenya Ministry of Information	Open Data	<ul style="list-style-type: none"> <li>■ Kaburo Kobia, Project Manager, Local Digital Content, Kenya ICT Board</li> </ul>	<ul style="list-style-type: none"> <li>■ Open data development and plan of engagement</li> <li>■ Convening of decision makers</li> </ul>
Kenya Bureau of Statistics	Data cataloguing	<ul style="list-style-type: none"> <li>■ Cleophas Kiio</li> </ul>	<ul style="list-style-type: none"> <li>■ Methods for categorization and thematic outlay</li> </ul>
PRIVATE SECTOR			
Kimetrica	Chief of Party - Livelihoods Analysis Project	<ul style="list-style-type: none"> <li>■ Alemu Asfaw</li> </ul>	<ul style="list-style-type: none"> <li>■ Description on the LAP: Software and database development</li> <li>■ Capacity building with DRMFSS in Ethiopia</li> <li>■ Agreement on data sharing, protocols and methodology design and updating.</li> <li>■ Engagement on member state expert working group and in-country capacity building.</li> <li>■ Database development</li> </ul>
DevInfo	Database development and data collection	<ul style="list-style-type: none"> <li>■ Arun Kapuria – director of programmes</li> </ul>	<ul style="list-style-type: none"> <li>■ Expertise on SDMX.org – set of guidelines in developing world on exchange of data and meta-data standards</li> <li>■ Data capture including tool and database development</li> <li>■ Dashboards are customized application, e.g. key performance indicators (KPI) around resilience and illustrating their interactions</li> <li>■ Technical services around training, on both how to use data and how to carry out further analysis and tool development</li> </ul>
Infonet	Open Data	<ul style="list-style-type: none"> <li>■ Philip Thigo - Co-Founder &amp; Business Development Director</li> </ul>	<ul style="list-style-type: none"> <li>■ Specialist on technology development</li> <li>■ Part of Kenya Open Data Task Force</li> <li>■ Feedback on guidelines for setting up Open Data platforms</li> </ul>
Trac-FM	Data collection and dissemination methods	<ul style="list-style-type: none"> <li>■ Wouter Dijkstra - Director</li> </ul>	<ul style="list-style-type: none"> <li>■ Trac FM based in Kampala, Uganda and have a successful program with Radio stations for SMS based data collection and real time dissemination through radio broadcasters.</li> <li>■ Specialize in back-end database creation, include location of respondents</li> </ul>

## NGOS AND PROJECTS

<p>Mercy Corps</p>	<p>Data and standards of protocol</p>	<ul style="list-style-type: none"> <li>■ Chloe Stull-Lane – program quality manager drylands</li> <li>■ Barbara Willet – Director M&amp;E and learning</li> </ul>	<ul style="list-style-type: none"> <li>■ Mission Metric’s – tool to assess impact and quality of work, by pegging work outputs according to a specific mission</li> <li>■ *Data review processes include a documentation of sources, review of quality and descriptions of methodologies to create dataset. Acceptance is made on factors such as sample size etc.</li> <li>■ *Quality review on data coding</li> <li>■ *Biggest challenge with use is understanding what to do with agency data, integrating qualitative judgements and the process of analytical questions, with information for decision makers an end goal</li> <li>■ *Very interested to engage and learn on interOsystem dynamics and how to capture this in M&amp;E and move away from their current focus on logframe evaluations.</li> </ul>
<p>Emergency Capacity Building Project</p>	<p>Data access</p>	<ul style="list-style-type: none"> <li>■ Massimo Altimari – ECB Horn of Africa Field facilitator</li> </ul>	<ul style="list-style-type: none"> <li>■ Critical need is to create robust benchmarks</li> <li>■ Decentralized trailing to build capacity of local initiatives</li> <li>■ Build on tools and capacity to respond to emergencies in line with resilience response</li> <li>■ There is a need for an inter-agency rapid needs assessment and uniform presentation of data</li> <li>■ Need to create a system for post project closing to ensure data is integrated into platforms and not lost, as well as imbedded experience</li> <li>■ Need to used IGAD and member state engagement to build a leverage point to organize agencies toward open data and data sharing</li> <li>■ USAID to support in asking partners to actively engage in central data housing and sharing</li> <li>■ Data seen as a matter of security and ‘power’ therefore a sensitive subject</li> <li>■ Needs to be a standard for data collection, drawing together a check-list of different technical approaches to fulfill in collecting data. The data must comply with a certain number of criteria – ‘validity grade’</li> </ul>

Kenya Red Cross	Data availability	<ul style="list-style-type: none"> <li>■ Leila Chepkemboi</li> </ul>	<ul style="list-style-type: none"> <li>■ Hackathons with World Bank</li> </ul>
<b>CGIAR &amp; ACADEMIA</b>			
NOAA	Data Cataloguing	<ul style="list-style-type: none"> <li>■ Maria Dillard - Hollings</li> <li>■ Marine Laboratory</li> </ul>	<ul style="list-style-type: none"> <li>■ Data cataloguing methods</li> <li>■ Development of conceptual framework including the ordering of levels of analysis in accordance with causation.</li> </ul>
ICRAF	Decision analysis	<ul style="list-style-type: none"> <li>■ Keith Shepard</li> <li>■ Constance Neely</li> </ul>	<ul style="list-style-type: none"> <li>■ Intervention based ideas</li> <li>■ Decision Analysis work stream development, including joint workshop in July</li> </ul>
IFPRI	CGIAR alignment  Taxonomies and ontologies	<ul style="list-style-type: none"> <li>■ Maria Comanescu</li> <li>■ Melanie Bacou</li> <li>■ Jawoo Koo</li> </ul>	<ul style="list-style-type: none"> <li>■ Integrating the tools and approach to the Clearing House and G8 Technology platform and the geo-coding of all CGIAR CRP activities.</li> <li>■ Ensuring shared learning with CGIAR Spatial Data Task Force</li> <li>■ Work on taxonomies around thematic and topical areas for common ontologies and structure across both resilience and technology focus areas.</li> <li>■ Integrate work activities in-line with the Investment Mapping Toolbox</li> </ul>
ILRI	Data cataloguing and sharing	<p>GIS:</p> <ul style="list-style-type: none"> <li>■ Mohammed Said</li> <li>■ An Notenbart</li> </ul> <p>Research Methods Group:</p> <ul style="list-style-type: none"> <li>■ Jane Poole</li> <li>■ Carlos Quiros</li> <li>■ Nicholas Ndiwa</li> </ul>	<ul style="list-style-type: none"> <li>■ Development of data catalogue for Horn Region, as basis of scoping and review work area</li> <li>■ Architecture of data classification</li> <li>■ Development of minimum metadata standards</li> <li>■ Development of resilience indicators and understanding how the data distribution links to these</li> </ul>

# Potential institutional partners

## DevInfo

DevInfo ([www.devinform.org](http://www.devinform.org)) is a database system for monitoring human development. It is a software tool for organizing, storing and presenting data in a uniform way to facilitate data sharing at the country, regional and global levels across government departments, United Nations agencies, civil society organizations and development partners. DevInfos mission is to enable the UN system and its national development partners to realize this vision as an effective and relevant common database system used for the accumulation, dissemination, presentation and advocacy of human development indicators. To add value to national statistics systems by complementing existing databases and bridging data dissemination gaps. To be used as an advocacy platform by UN agencies to engage both government and civil society in policy choices for human development that yield measurable results. Activities. More than 130 countries have adapted the DevInfo database system to monitoring human development.

Figure 4: Summary of DevInfo's services and approach





DevInfo has been an important catalyst for national partner in providing access to standardized sets of national and sub-national development indicators.

Project examples:

- CME Info – Child Mortality Estimate Info – is available at [www.childmortality.org](http://www.childmortality.org). Powered by DevInfo technology, it allows users to track the progress of any country in reducing infant and child mortality.
- MICS Compiler, powered by DevInfo, allows users to search indicators across UNICEF sponsored Multiple Indicator Cluster Surveys, which are conducted worldwide and based on nationally representative samples. MICS Compiler indicators use standard definitions for international comparability and can be found at [www.childinfo.org](http://www.childinfo.org), the one-stop source for UNICEF statistics on children and women.
- CensusInfo, at [www.devinfo.info/censusinfo](http://www.devinfo.info/censusinfo), a software package adapted from DevInfo database technology, was launched in 2009 to help countries disseminate census data. Developed jointly by the United Nations Statistics Division, UNICEF and UNFPA, CensusInfo provides a method to organize, store and display data in a uniform format to facilitate census data-sharing at the country level across government departments and UN agencies.
- Gender Info 2010 contains the official UN MDG data – disaggregated by gender – for more than 50 indicators, providing over 300,000 data values. Gender Info 2010, at [www.genderinfo.org](http://www.genderinfo.org), is the result of an Interagency effort supported by the Expert Group on MDGs, including: UNFPA, The World Bank, UNDESA/DAW, UNIFEM, ILO and UNICEF.

DevInfo provides methods for organizing data by national plans of action, by sector (health, education), by theme (gender, poverty), by institution (donors, government departments, UN agencies) and by conventions (by international monitoring frameworks). DevInfo is currently adapted by more than 90 national statistics offices/planning offices to monitor human development, therefore has a good imbedded understand. Each adaptation is customized to monitor national priorities. It was felt this wealth of database development, and importantly the links to historical data developments in the UN would make them a strong partner to assist in the data delivery activities.

## World Bank OpenDRI

The Open Data for Resilience (OpenDRI) was created in 2011 in response to the drought in the HoA region. The consensus was to develop a geo-spatial platform to link different data collections across the region to allow a more informed response to the crisis. The initial meeting included input from partners such as FAO, RCMRD, WFP, NASA, UNHCR, UNOCHA, FuseNet and Development Seed.

The HoA Mapping Project currently has three key components:

### 1. Updating of the platform

A new version of the Geonode, version 2.0 has been installed. This has dealt with feedback of the users of the first iteration including categorization issues, funding, sourcing data and how the platform looks. Jude Mwenda is working as specialist software developer for the project and is located at RCMRD, with the

notion of building capacity within the institution as the project progresses. This is specifically capacity around open data and data sharing and engagement with the platform.

Key focus areas in this work-stream include work on data cataloguing and engaging the philosophical mindset of intended users and partners around open data. Therefore there is a dedicated partnership element to build secure partnerships to institutionalize a working arrangement with partners. During June 2013 a soft launch of the platform is occurring with specific engagement with partners. A data 'champion' is required to integrate the data sets, pull together lessons learned, and keeping project updates and operationalizing quality assurance.

This cataloguing exercise links to the RPLRP project to assist stakeholder on what data sets exists and what is available. This forms part of the pre-appraisal mission.

## **2. Engagement with the Red Cross to launch 'Hackathons'**

The World Bank is facilitated Kenya Red Cross to launch an activity around Random Hacks of Kindness (RHOK), which aims to draw together the available technical skills of software developers in Kenya to utilize their skills toward development challenges. The 'Hackathon' had software development skilled programmers, where a problem statement was given and the developers then had 36 hours to work on a prototype and app to solve the problem statement. The aim was for a selection of these apps to be rolled out in daily applications of the agency as well as engaging with the second iteration of the OpenDRI platform.

## **Kimetrica**

Kimetrica were consulted and discussions took place to understand their data warehouse concept. This has two major components: improving data quality and standards and provide some simple analytical tools which would make the decision making team in a much stronger position. The concept aims to produce hands on results as per the needs and demands of core decision makers. This can be done through keeping all data in a standard format and creating a relational database whereby decision makers would be able to see the relationship (interaction) of different indicators into their decision making processes. Innovative approaches, like provision of some geo-referenced core results in the hands of decision makers smart phones (to encourage ownership of decisions) will be implemented. The Data Warehouse serves to ensure that data from numerous disparate information systems can be easily accessed from a single source, allowing integrated reporting and analysis. The Data Warehouse will be a database application, hosted in a Government institution with an off-site backup system. It will contain all the relevant food security and livelihood data in an easily analyzable format.

The approach should ensure that the data management must evolve around what is most needed by key decision-makers and hence engaging technical staff in government, non-governmental organizations, and research institutions is important. Introduce some culture of sub-contracting or outsourcing rather than giving the whole responsibility to the Government – promote the Government to

focus more on data analysis and reporting rather than doing data collection. This will help in mainstreaming the major data management structure.

Kimetrica advised that a key focus is needed on analytical skills and providing some added value to the data rather than the data itself. A tech group, therefore, should first focus on provision of some basic analytical skills using the available data. Assessing their analytical skills and provide some practical solutions and examples of how their info is used and triangulated and promote some state of the art technologies (innovative solutions) and their usefulness to encourage adoption.

### **Process for collaboration**

- Linking in cataloguing system, drawing on example of the Data Warehouse development with DRMFSS where they are currently hosted in Ethiopia.
- Linking to proposal development on data collection methodologies (coordination, design of questionnaire, software development and actual field data collection). In addition how results are integrated with a Ministry linking to the Data Warehouse Development.
- Data monitoring (including sms-web based EWS, automated contingency planning etc.)
- Member state engagement expertise to help lead on the IGAD member state working group, including linking Government channels into the Gap analysis.
- Assistance with planning and executing regional data management plan, where existing institutional structures would be utilized. Helping to create a demand driven cycle of data access and needs.
- Linking member states into a comprehensive database development and key champions within Ministries.
- Responsible for ensuring the approach implements a local presence and has a strong advocacy, visibility, information and capacity building component.

## **Kenya Open Data**

The Kenya Open Data sits under the Ministry of Information and is run and administrated by the ICT department. It was established in 2012 and is currently set to be a 5-year partnership between the key collaborating agencies. The project emerged from the initial Census development with the aim of building an online platform that would allow Permanent Secretaries, decision makers and a host of stakeholders to access open data to assist in decision making. The Open Data are currently recruiting staff to populate a full team to draw together a robust activity plan and team structure over the next five years. The platform has been developed in collaboration with a Task Force made up of various experts from the technology community.

The current structure has been to encourage sharing of data by key Ministries including:

- Ministry of Education
- Ministry of Finance
- Kenya Bureau of Statistics
- Ministry of Planning

The longer-term vision is for the Kenya Bureau of Statistics to own and manage the platform which links directly to their current mandate on data production and dissemination.

Table 2: Kenya Open Data goals

GOAL	DELIVERABLE
Website Optimization and Visualization: Improve design and visualization of the open data portal	A world class portal that is well designed and easy to navigate
Policy Development: Facilitate the development of a Cabinet level Government Open Data policy that address data gathering and sharing policies	Government Open data policy
Data Curation and Management: Ensure high quality data is published on a regular basis	Data curation strategy
Events and Outreach: Plan and host outreach and awareness campaigns	<ul style="list-style-type: none"> <li>■ Series of training workshops</li> <li>■ Series of events for Ministries and government agencies</li> <li>■ High-impact follow up event</li> </ul>

## Feedback on Member State Open Data Structure

As Kenya has pioneered on the Open Data portal in the region as a member state it provides an excellent case study to inform the further development of Open Data in the region and critically, the structure other member states can base the development of their Open Data developments upon.

Ideally the platform needs to be placed within the National Statistical Office, which already has a mandate for research and collection of data sources, as well as staff members who have existing capacity in these areas. An issue in Kenya, with the Open Data platform based within the mandate of the Ministry of Information and within the Information Communication Technology (ICT) department. The hierarchy of placement is critical for any Open Data initiative, to allow set protocol of sharing data to be put in place, and for the correct capacity to be built. In addition individual ministries with specific topical expertise, e.g. education, need to be empowered to create data that can easily be shared an integrated into an open data format. This goes in line with the development of protocol from collection of data to dissemination.

## Feedback on structure and learning

The Open Data endeavor is part of Kenya’s commitment to the Open Government Partnership (OGP) which is a multi-lateral initiative which it has been part of since 2011. The Partnership currently has six other African nations and 59 countries in total. The overarching aim of the partnership is for more open and transparent governance. Broadly through engaging with the Open Government Partnership

there is a commitment to:

- High standards of openness
- Proactive closure and access to information
- Adoption and use of new technologies to promote openness and accountability

There is a strong focus and promotion of ICT as a mechanism to promote accountability and sharing of public information.

Through signing the Open Governance Partnership, Kenya has committed to under management of public resources, fiscal reporting and civil society engagement amongst others all detailed in their Country Action Plan for the OGP. Under the OGP in order to fulfill eligibility criteria, it requires disclosure of aspects such as public servant assets, fiscal information, citizen engagement and access to information. The engagement of civil society is a key pillar of inclusiveness in the process of the country action plans and links closely to the peer-learning element of the OGP. The country action plan are a concrete approach to undertaking the commitments.

For a country to join the Open Government Partnership (OGP), they have to go through these seven steps:

1. Meet the minimum eligibility criteria, and agree to the OGP's five common expectations.
2. Signal the government's intent to participate in OGP by sending a letter to the OGP Steering Committee for posting on the OGP Portal.
3. Undertake the broad public consultation to inform the government's OGP commitments, and identify a multi-stakeholder forum for regular public consultation on OGP implementation.
4. Develop an OGP country plan with concrete commitments on open government that address at least one grand challenge, drawing on the expertise provided by the OGP networking mechanism as needed.
5. Participate in peer consultation on the OGP country plan with participants and the Steering Committee.
6. Publicly endorse the OGP Declaration of Principles and deposit the final country plan on the OGP portal.
7. Publish a self-assessment report on progress after 12 months of OGP implementation, and cooperate with the independent reporting mechanism in generating its own report.

A key area that has emerged is the need to address demand side of data, for example the establishment of an African Media Initiative to understand and use data and develop better analytical skills in reporting and importantly where data has been obtained. There was a consensus from the Permanent Secretary of the Ministry of Information on the time for Open Data being now. What's needed is for the current development on the supply side issues (e.g content provision) to be matched with and understanding of how to manage the demand side and the need for clear messages to encourage open-data.

The African Union Department of Political Affairs are currently building the 50-year AU strategy and wanting to actively engage and pursue technology options, which can assist in the pan-African process of promoting open governance. Under the AU charter of democracy the aim is to make the state to be held to account for transparency issues, as detailed currently in the State of Governance report by each country. Key areas of emerging work include:

- Strengthening collaboration at the AU level
- How to integrate the OGP process as part of the peer review mechanism
- Integrating the OGP process into the African state reporting mechanism
- The main discussions around Open Data found that it is aimed at allowing proactive disclosure, essentially creating an enabling environment for public access and importantly engagement with the platform. Open Data relies on web portals to be accessible, updated, carry relevant information and to encourage civic engagement. In setting up an open data platform, key areas for consideration include:
  - Legal and policy requirements – to work through issues of security classification, procedures, standards and policies in place at member state level.
  - Administrative structures – setting out good practice and processes to enhance the capacity of public servants to maintain, update and populate open data sources. This requires a concerted training approach to ensure proactive development of data.
  - Content management - a robust strategy for managing information to ensure sources are complete and trustworthy. This includes the development of metadata standards for uploading and sharing data. In addition a review and promotion of complimentary policy frameworks to promote data access. This process also entails a review of administrative structures in place (for example public servants engaged in open data and clarifying their specific role and expectations).



# 10

## Annex 1: Contact details Partner Focal persons

Theme	Name	Contact	Email
General	USDA	Ryan Williams	r.williams@ers.usda.gov
Conflict	Uppsala conflict data program	Peter Wallensteen	Peter.Wallensteen@pcr.uu.se
Population	African population and health research centre		datarequests@aphrc.org
	Head of health challenges	Catherine Kyobutungi	ckyobutungi@aphrc.org
	World Bank	Peter Warurture	pwarutere@worldbank.org
	World Bank	Sajjad Ali Shah	sajjadshah@worldbank.org
	Kimetrica	Alemu Asfaw	Alemu.asfaw@kimetrica.com
Various	WFP	krishna krishnamurthy	krishnamurthy@gmail.com
	DEPHA (Data Exchange Platform for the Horn of Africa) - UNEP/OCHA-Somalia and other partners	Giorgio Sartori, Mick Wilson, Tom Bakkum	Mick.Wilson@unep.org , sartori@un.org
	United Nations Environmental Program /Division of Environmental Information, Assessment and Early Warning (UNEP/DEWA)	Christian Lambrechts	Christian.Lambrechts@unep.org
Coastal	Coastal Zone Management - Horn of Africa (UNEP)	Lieven Bydekerke	lieven.bydekerke@unep.org
	OSS (Sahara and Sahel Observatory) SISEI (Information and Monitoring Systems for the	Christopher Nuttal (UNITAR), Jocelyn FENARD (UNITAR)	jocelyn.fenard@unitar.org , christophe.nuttall@unitar.org

Various	UNSTATS		
	Animesh		Animesh@myself.com , animesh.africa@gmail.com
Various	FAO / Africover	Luca Alinovi Beldina Owalla Antonio Di Gregorio John Latham - FAO	luca.alinovi@africover.org , beldina.owalla@africover.org , antonio.digregorio@africover.org
Eritrea	Africover national focal point Eritrea	Yemane Tekleyoannes - FAO/FEWS.net rep, Maaza Abraha - National Statistics & Evaluation Ghebremichael Hagos - Water Resources Dept	yemane@gemel.com.er, wrd@gemel.com.er
Conflict	UN Dept of Peacekeeping Operations Mission to Ethiopia & Eritrea	Philip Chinnici, Francisco Iguialada Sayed Amanullah Shahidi	iguialada@un.org , chinnici@un.org , sshahidi@un.org
	UNECA - Economic Commission for Africa, (CODI) (Commission for Development Information) Development Information Services Division (DISD): Africa-Wide Information Initiatives	Dozie Ezigbalike, Orlando Nino Fluck	cezigbal@uneca.org , onino@uneca.org
Health	Relief International - nutrition & primary health care services in Mudug region	Mustafe Ismael	mustafe@ri.org
Policy & women	ADESO - promoting women's political participation for development of peace & security in puntland	Anne-Marie Schryer-Roy	aschryer@adesoafrica.org
Health	International Medical Corps - improving primary & secondary health care	Gabriella Terranova	gterranova@internationalmedicalcorps.org
Project Concern International (PCI)	Securing access to food & economic enterprise in Ethiopia II	Gwenelyn O-Donnell-Blake	godonnell@pciglobal.org

Various / health	AMREF: strategic strengthening of information systems (SSIS) [collection & use of surveillance data]	Taj Haider	Haider@amrefusa.org
Children / women	Convoy of Hope - children's feeding & economic empowerment for women	Kara Edson	k.edson@convoyofhope.org
Children	PACT - Orphans & vulnerable children - Yekokeb Berhan	Huntington Hobbs	hhobbs@pactworld.org
Health	Management sciences for health - Fanikisha Institutional strengthening project	Daraus Bukenya	dbukenya@msh.org
Health (HIV/AIDS)	Management sciences for health (MSH) Leadership, management & sustainability project kenya	Karen Caldwell	karencaldwell@msh.org
Health	Direct Relief International - Delivery of essential medical supplies	Andrew Maccalla	amaccalla@directrelief.org
	International rescue committee - Integrated community based case management of common childhood illness in Beninshangul-Gumaz region.	Sandra Keller	sandra.keller@rescue.org
Pastoral & health	Save the Children - pastoral livelihoods initiative II - maternal and newborn child health project	Meena	meena.g@scuk.org.et
Health	Save the children - TransAction HIV/AIDS	Yoseph Burka	yburka@savethechildren.org
Health / education	Save the children - sustainable protection, treatment, & education for orphans & markets infected by HIV	Elias debebe	eliasd@scd.et.org

Health	Save the children - saving newborn lives	Dr Abeba Bekele	abekele@savethechildren.org
Economic	Counterpart International - ethiopian sustainable tourism alliance	Patrick sommerville	psommerville@counterpart.org
Water & health	Adventist development & relief agency - (ADRA) - water, health, env awareness (WEHEA)	Jonathon Beagles	countrydirector@adraethiopia.org
Health	Global Communities - technical assistance for the implementation expansion of blood safety activities	Courtney Brown	cbrown1@chfinternational.org
Development	World Vision - Mwing-Tseikuru Area Development Program	Joel Hughey	jhughey@worldvision.org
Pastoralists	Save the children - pastoralist livelihoods initiative phase II	Axel Weiser	aweiser@savechildren.org
Health / livelihoods / food security	Save the children - HIV, Food security & livelihood support. Lift Project	Lisa Parrott	lparrott@savechildren.org
Food security	The Hunger Project - Wurib Epicentre	Tory Watts	vw@thp.org
Health / economic development	Episcopal Relief and Development - IDCCS kenya integrated community health, economic empowerment & wash program	Savanga Jain	sjain@er.d.org
Pastoralists	Heifer International - Pastoralists integrated livestock project (PILP)	Kelly Doppelhammer	kelly.doppelhammer@heifer.org
Education	Save the Children - integrated rural development project: basic education	Suadik Hassen	shassen@savechildren.org



The International Livestock Research Institute (ILRI) works to improve food security and reduce poverty in developing countries through research for better and more sustainable use of livestock. ILRI is a member of the CGIAR Consortium, a global research partnership of 15 centres working with many partners for a food-secure future. ILRI has two main campuses in East Africa and other hubs in East, West and Southern Africa and South, Southeast and East Asia. [www.ilri.org](http://www.ilri.org)



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**technical**  
consortium



The Technical Consortium for Building Resilience in the Horn of Africa provides technical support to IGAD and member states in the Horn of Africa on evidence-based planning and regional and national investment programs, for the long-term resilience of communities living in arid and semi-arid lands. It harnesses CGIAR research and other knowledge on interventions in order to inform sustainable development in the Horn of Africa.

[www.technicalconsortium.org](http://www.technicalconsortium.org)

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