

# Path to Sustainability

Data, Monitoring and Evaluation

# 02



bulungulaincubator



A model for establishing a holistic place-based, person-centred data management system

# Content

As an “incubator” we wish to enable collaboration by sharing the wealth of knowledge we have collected over the years to support communities, NGOs, corporate entities, and government in designing and implementing solutions that contribute to rural development.

We therefore have developed our "Path to Sustainability" series to outline our projects and programmes, sharing our approach, resources, and takeaways for success.



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# A catalyst in the creation of vibrant and sustainable rural communities

We work with the Xhora Mouth Administrative Area (A/A) community, which is based in the Mbhashe municipality along the Wild Coast of the Eastern Cape. In the last Statistics South Africa (StatsSA) census, the Mbhashe municipality was the poorest in the country.

When the BI founders first came to Xhora Mouth A/A—where our work was launched in 2004—there was no road, access to healthcare, functioning schools, electricity, sanitation, or safe drinking water. Only a handful of people had ever succeeded in graduating from high school, and almost all adults in the village were illiterate. For livelihoods, people from the community relied on subsistence farming, government grants, and wage remittances from migrant workers.

The population's health was severely compromised by the inaccessibility to health care, insufficient health knowledge, poor nutrition, poor water quality, HIV and cysticercosis. We conducted a local survey and found that 53% of households had lost at least one child to diarrhoea-related diseases, and one in nine had lost three or more.

It became clear that the approach to developing vibrant and sustainable rural communities must be holistic. There is no single intervention, no 'silver bullet', that can enable a path out of poverty. Over time, we have steadily built our interventions to span from 'Pre-conception to Career'.



## **Education**

To promote early childhood development through a series of programmes that support the education and care of learners throughout their student-lifetime.



## **Health & Nutrition**

To ensure access to necessary healthcare for members of the community and run quality programmes to promote health and wellness.



## **Sustainable Livelihoods**

To support and promote the generation of a local economy that uses the valuable assets in the region to create local jobs and opportunities.



## **Vibrant Villages**

To promote growth and vibrancy of youth through sport, art, and cultural projects.

# Background

For nearly two decades, we have implemented projects from 'Preconception-to-Career' in our community, spanning education, health, sustainable livelihoods, youth development and social cohesion. These projects have amassed a significant amount of data that we use to assess the effectiveness of our interventions, improve project management, and make informed decisions within our organisation and on a broader scale for greater impact.



Over the years, we have worked with different experts to develop a robust data management system. It has evolved through an iterative process, involving continuous refinement to ensure the system is "fit for use". From manual, hard-copy data collection to a fully digital approach, we have successfully built and implement an effective data management system, despite the challenges of being based in a deeply rural area with limited access to resources and low levels of digital literacy.

The purpose of this toolkit is to support and guide other organisations in establishing effective data, monitoring, and evaluation systems tailored to their projects and communities.

## How using data can help nonprofits achieve their goals

### Transparency in operations

Transparent operations are the cornerstone of building trust and credibility within communities and among stakeholders. Data, monitoring, and evaluation facilitate transparency by providing detailed information of projects. Through well-documented data collection methods and systematic monitoring, community-based organisations can present accurate and unbiased information about the progress of their interventions. This transparency creates accountability, allowing stakeholders to see the real-time status of projects, allocation of resources, and alignment of activities with intended outcomes.

### Deeper insight into intervention operations

Data management practices allow organisations to delve beyond surface-level observations and gain an in-depth understanding of how interventions are being executed

and their impact. By systematically collecting data on various project components, organisations can analyse the intricacies of their operations. This includes assessing whether activities are being carried out as planned, identifying potential issues, and understanding the interactions and dynamics between different interventions. This deeper insight can help guide informed decisions that optimise project execution.

### **Recognising successes and identifying failures**

A data management system allows organisations to objectively assess the successes and failures of their interventions. Data-driven metrics provide tangible evidence of positive outcomes. Conversely, they shed light on aspects that may not be yielding the desired impact. This critical analysis allows organisations to promptly identify failures and pivot strategies for more effective solutions, preventing resources from being wasted on ineffective approaches.

### **Eliminating the emotional aspect of success or failure**

Data, monitoring, and evaluation introduce objectivity to the evaluation process by removing the emotional bias often associated with assessing the success or failure of interventions. Rather than relying on subjective judgments or personal opinions, organisations can base their evaluations on concrete data and measurable outcomes. This shift eliminates undue influence from emotional factors and creates a culture of learning and adaptation based on evidence.

### **Creating accurate metrics for informed decision-making**

In the business world, a for-profit company's success is often gauged by financial metrics like revenue and profit. However, nonprofit organisations have a different mission, focused on social impact and positive change.

Evaluating success in the nonprofit sector is complex due to the multifaceted nature of its goals. Unlike straightforward financial metrics, nonprofit success requires unique indicators. These indicators, selected with a deep understanding of the organisation's Theory of Change, provide a meaningful representation of progress. Accurate nonprofit metrics align with their goals, guiding informed decision-making to maximise their social impact.



# Person-centred approach

Our system is designed to be person-centred, focusing on how individuals engage with our projects over time. As a holistic, place-based development organisation, we aim to achieve transformational impact through incremental change. Our data management system can help measure this deep impact.

This transformational impact over time is demonstrated by Siyamthanda Dibanto. As a five-year-old, Siyamthanda was part of Jujurha ECD Centre’s inaugural class. Throughout her formative years, she grew in tandem with our projects, taking online Maths and English lessons with iiTablet Tshomiz (e-learning tutoring), receiving primary health care from our community health point and Nomakhayas, participating in netball tournaments and graduating from Bulungula College—the first in her family to graduate from high school.

She then finished a year of accredited courses and a paid internship with our Job Skills and Entrepreneurship Programme. Most recently, Siyamthanda was connected with a nonprofit organisation [through our network](#) and offered a full-time, permanent job position based in our community.

We are yet to see the eradication of poverty in our community. But today, young people like Siyamthanda are finding their vocations having grown up through our ‘preconception-to-career’ programme.



**2012**

Enrols in iiTablet Tshomiz, Maths and English online learning project, and participates throughout primary school years

**2019**

Attends Bulungula College, inaugural class

**2021**

Graduates from Bulungula College, the first in her family to graduate from high school

**2022**

Completes an accredited Further Education and Training (FET) course and a paid internship through JSEP

**2023**

Secures a full-time, permanent job position with a BI partner organisation

Read Siyamthanda’s full stories: [Part I](#) | [Part II](#)

Unlike other data management systems tailored for a specific programme, our model places individuals at the core, ensuring that all project outcomes revolve around the person's impact over time.



# Special considerations in a rural and resource-constrained environment

Operating within a rural, sparse and resource-constrained context introduces a range of distinctive considerations that impact the processes of data collection and analysis. This section highlights the unique challenges and adaptations needed for effectively harnessing data in such environments.



## Technological realities and literacy

The rural context often presents specific challenges. Factors such as the availability of technology, internet connectivity, and digital literacy levels influence the feasibility of data collection and transmission.

Our system now uses tablets for data collection and digital forms that can be filled out and saved offline. This function allows us to continue capturing data even when there's no network connectivity. These forms are deliberately designed to be user-friendly, and our collectors receive consistent training and supervision to ensure their proper implementation—accommodating all levels of digital literacy. It's also important to note that since our community was only set up with grid-electricity at the beginning of 2023, all of our project sites are equipped with solar power, allowing us to charge tablets and set-up WiFi.

## Vast geographic area and choice of tools

For community-based organisations in rural or remote areas, the challenge of a wide beneficiary geographic distribution comes into play. Decisions regarding digital versus paper-based data collection methods need careful consideration. While digital platforms offer efficiency and accuracy, they may not always be feasible or necessary. Balancing this choice with effective training for implementing the chosen tool is essential.

For example, we used paper-based forms to collect data for many years. However, we realised that with increasing project data, this method was inefficient. Due to our community's remote nature, project managers had to transport hard-copy forms to our main

office, which was a time-consuming step. The hard-copy data then needed to be recorded into our digital system by data-capturers. This manual capture took a lot of time and was prone to error. Given these considerations, we researched and tested other data-collection tools, and switched to using tablets with digital forms.

### **Automation for efficiency**

Building a smoothly running data system, given all of our different projects, required establishing an automated data flow pathway. This pathway seamlessly connects different platforms for data capture, storage and visualisation. Automation should also include data verification, cleaning, and organising to enhance the accuracy and efficiency of the entire process.

### **Sustainability in simplicity**

The rural and community-based setting demands simplicity in system design. Avoiding overly complicated platforms and systems with numerous components is crucial. A system that is context-specific, user-friendly, and requires minimal maintenance ensures its long-term sustainability. A successful system must be usable by everyone interacting with it.

## **How our system works**

Our system is 100% electronic, using tablets and digital forms ([Kobo](#)) for data collection. This data is directly captured into a powerful online storage and processing platform with relational database capabilities ([Airtable](#)) and further automated to a visualisation platform ([Google Looker Studio](#)) for data sharing.

Our data system is designed with a person-centred approach, which allows us to track individuals across all of our projects over time. This is achieved using a relational database ([Airtable](#)) centred around a master list of our beneficiaries.

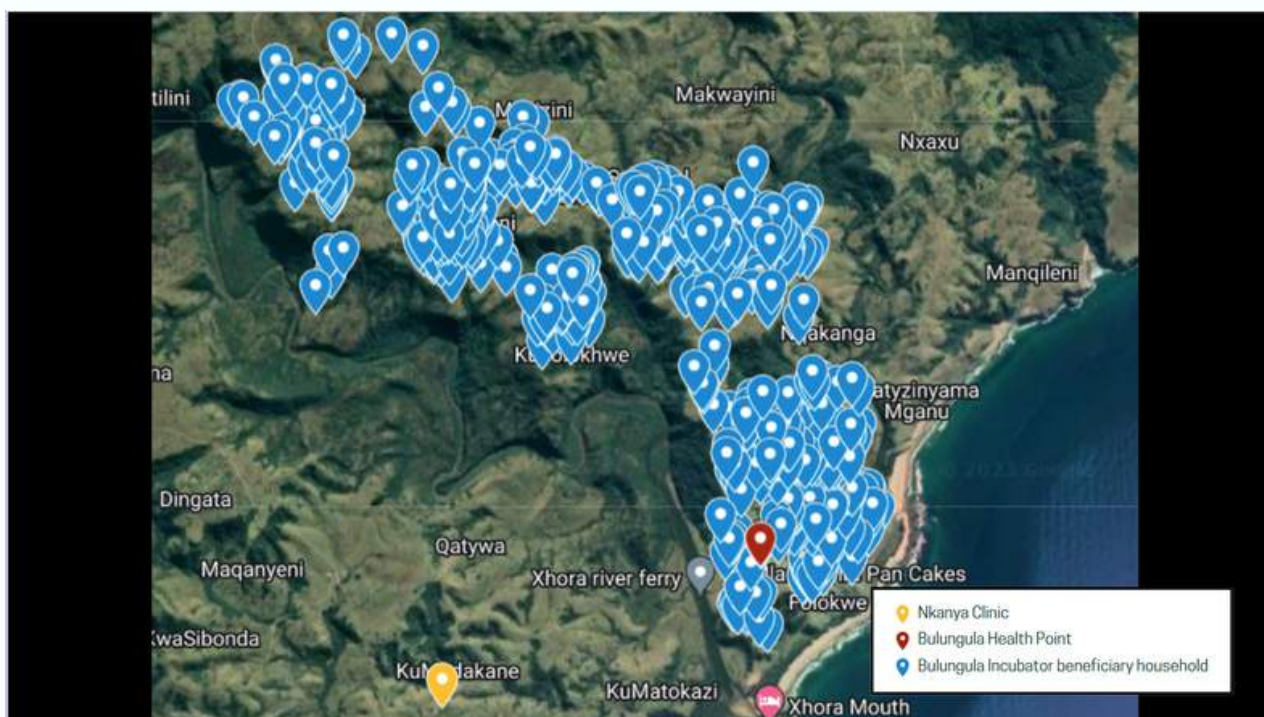
We created our master list through a community-wide census. The master list also simplifies our data collection process and caters to the varying levels of digital literacy among our data capturers.





To conduct the census, we trained our Community Health Workers—who already go to each household in our community—to use tablets to collect the names, ID numbers, and geographical locations of our beneficiaries. After about two months, we successfully mapped our beneficiaries and created a comprehensive master list.

Now, instead of entering personal details every time, project data capturers can simply select individuals from the master list to fill out the specific data form—making the capture process easier. To support the transition from paper-based to digital capturing, we provide extensive training, including ongoing general and in-field training. This ensures the proper and effective use of the data-capture system.



Map of our project beneficiary households, Xhora Mouth A/A.

The digital forms are automatically uploaded to the tablets that data capturers use. Once the form is filled out, it is uploaded directly to our data storage and processing platform. Using a digital format allows us to easily create and modify forms from our main office without the hassle of printing and delivering hard copies.

This streamlined system has notable advantages. For example, we can quickly create a specific form for our Community Health Workers to gather essential information during a disease outbreak. This form will automatically upload to their tablets, facilitating efficient assessment of affected areas.

A significant benefit of our tablet-based system is its offline functionality. Despite operating in an area with unreliable network coverage, all our projects can access and complete forms offline. Once network connectivity is restored, the completed forms are saved on the devices and automatically synchronised with our system. This ensures \*near\* real-time data updates.

With real-time updates, we've established a "red-flag" system that alerts us when a project isn't meeting its intended targets. For instance, in our Health Programme, if a beneficiary falls behind in consultations or treatments, our data system triggers a red flag. This notification helps us identify and address the issue immediately.

Additionally, our managers utilise the project data dashboards to complete "scorecard" reports, ensuring that interventions successfully meet their intended goals, and that the data is being used and interpreted.

Our data analysis provides us with valuable insights that allow us to better assess our projects' impact so that we can identify misalignments, refine our interventions, and redirect resources to solutions that have more significant outcomes.

For example, we implemented a literacy learning application on tablets for over 1,000 learners at primary government schools in our community for five years. The project was intended to strengthen reading comprehension and language skills. However, it could only work with strong and consistent network coverage, which we struggled to maintain at our project sites.

As a result, learners could not complete the lessons, and the project didn't have the desired literacy impact we wanted.

Using data from the project, we were alerted to the persistent issues, identified the cause, tested various solutions, and ultimately concluded that a complete change in our approach and resources was necessary.

Now, rather than solely concentrating on the learner, we invest in training and mentoring teachers through an evidence-based literacy programme to enhance classroom literacy instruction. Although we are still evaluating the initial effects of this project, we are confident in our ability to assess and make informed decisions based on our data regarding its future impact.

Beyond using our project data for current insights, we are excited about its future potential. With our deep community embeddedness, extensive experience, and vast data, we are well-placed to innovate and unlock new approaches to develop interventions.

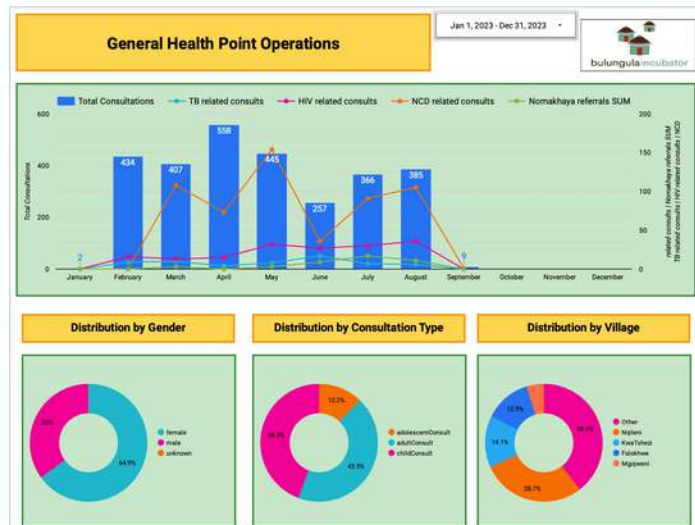
A "sentinel site" is a community from which in-depth data is gathered and the resulting analysis is used to inform programmes and policies. The longitudinal data we gather allows us to gain valuable insights into how project interventions impact individuals, households, and various groups over time. This information not only enhances our understanding of effectiveness but also guides the development of initiatives with far-reaching impact.

Through the collection and analysis of Bulungula Incubator Sentinel Site data, we will be able to take a deep dive into several areas, for example: the impact of the home environment on learning outcomes across a student's lifetime; the impact of nutrition training on childhood stunting; the impact of parental training and involvement on ECD; or the impact of role models by local classroom facilitators on learning mathematics.

# Health programme case-study

Our Health Programme comprises a health point and a team of community health workers (Nomakhayas). The health point functions like a “mini-clinic” and is staffed by three nurses, and our Nomakhayas conduct daily home visits. Together, they ensure our community receives accessible primary healthcare services.

This includes child nutrition and health, maternal and neonatal health, sexual and reproductive health, dentistry, immunisations, mental health support, noncommunicable disease support, and acute and minor ailment care. In a typical month, Bulungula Health Point sees around 400 patients, and Nomakhayas visit nearly 700. Our dashboards offer flexible viewing options, allowing users to filter data for specific time periods, by gender, consultation type, and where people are from.



Example of our health point data dashboard.

## Enhancing project management

Our data system can enhance project management, offering transparent and impartial insights into red flags and target metrics. However, the usefulness of this information hinges on the active use and interpretation of the dashboard data.

Our managers actively engage with the dashboards, extracting insights to complete monthly “scorecard” reports. This approach helps us “keep a finger on the pulse”, ensuring that our projects run smoothly as planned while providing an early warning system for necessary interventions when issues arise.

HBC MONTHLY SCORECARD						
Name of person						
Name of Project						
Reporting Date						
Reporting Period						
Indicator	Target	Red Line	For this period, are you on target (Y/N)?	For this period, are you below a Red Line (Y/N)?	Detailed plan on how you will achieve the Target (and thus also exceed the Red Line)	Manager Feedback
ECD at Home: 2 visits per month for each child	100%	80%				
0 - 3 children on track with immunisations	100%	80%				
0 - 3 children on track with deworming	100%	80%				
0-3 Number of children stunted	0	0				
0 - 3 children on track with Vit A	100%	80%				
0 - 3 children red flags	0	0				
Pregnancy: Red Flags	0	0				
Chronic patients medication adherence	100%	100%				
Chronic patients Red Flags	0	0				

Example of our community health work scorecard report.

# Step-by-step guide to establishing a data management system

## 1. Develop a strong Theory of Change (ToC)

Begin by developing a clear [Theory of Change](#) that outlines your organisation's goals, intended outcomes, and the pathways to achieve them. Identify the data you need to capture to measure progress and assess impact. Your ToC will guide your efforts.

## 2. Define data needs and tools

Determine what data you need to collect and why. Consider the volume and complexity of your data. Choose tools that are fit for use and align with your organisation's needs. For smaller projects, Google Sheets may suffice, while more complex initiatives require platforms like Airtable, Salesforce, or Sharepoint.

## 3. Identify users and managers

Clarify who will use the system and who will manage it. Determine user roles and responsibilities to ensure smooth operation. This step ensures that the system caters to the needs of all users and stakeholders.

## 4. Familiarise with tools

Thoroughly understand the tools available at your disposal. Explore their features, capabilities, and limitations. This familiarity will guide your decisions when choosing the most suitable tool for your organisation.

## 5. Provide ongoing data capture training

Simplicity is key when designing data capture procedures. Make sure the process can be done by the person on your team with the lowest level of digital literacy; if not, it's not simple enough yet! Provide regular training for all involved personnel to ensure a consistent and accurate data collection process.

## 6. Select a data housing solution

Choose a data storage platform based on your needs. Options include Airtable, Sharepoint, Salesforce, or Google Sheets. Consider factors like data size, complexity (relational database structure), and potential future growth.

*Important: While your projects might be small now, your data will keep growing over time. It's important to design a system that can accommodate long-term growth.*



*Data capture training with Community Health Worker*



## 7. Consider data validation and cleaning

Implement data validation mechanisms to ensure accurate and reliable data. Automation tools, such as those available in Airtable, can assist with creating validations and cleaning routines for more accurate data.

## 8. Explore data visualisation options

Select tools for data visualisation based on your data and reporting needs. Platforms like Google Looker Studio, Google Sheets/Excel (with charts/graphs), PowerBI, or even Airtable can help you present your data effectively.

## 9. Align data with your ToC

Regularly check that the metrics you collect align with your Theory of Change. Ensure that your data collection efforts remain focused on achieving your organisation's overarching goals.

## 10. Adapt and change as necessary

Be willing to adapt and change your data management system for continuous improvement. Building a data management system is not a linear, one-time project. It involves enhancements based on feedback, new information or projects, and evolving needs. Your ultimate goal is to make a system that is **fit for use**.



## Conclusion

Establishing a data management system is essential for community-based organisations to operate effectively and make a tangible impact. When you're initially launching as an organisation, your focus is often on *doing* the work rather than documenting it. However, based on our own journey, we strongly advise start-up organisations to establish a data management system as early as possible.

A data management system enables organisations to make informed decisions, maintain accountability, optimise resources, learn and improve, and advocate for change with evidence-based credibility. Through the successful implementation of this system, organisations can enhance their ability to create lasting positive change within their communities.