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# Using Data to Inform Decisions



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# Panelists

- **Ibrahim Daibes**, Director of Metrics (CanWaCH)
- **Abena Thomas**, Grant Manager/ M&E Advisor, ENRICH (World Vision Canada)
- **Rudy Broers**, Director, Monitoring and Evaluation (Plan International Canada)
- **Peter Berti**, Deputy Director/Nutrition Advisor (HealthBridge Foundation of Canada)
- **Vaughn Lantz**, Director, Program Effectiveness and Coherence (Global Affairs Canada)



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# Ibrahim Daibes

Director of Metrics  
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# Abena Thomas

Grant Manager/ M&E Advisor, ENRICH  
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# *Annual Outcome Monitoring:*

## *Setting Up Results Based Monitoring Systems using LQAS*



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# Enhancing Nutrition Services to Improve Maternal and Child Health in Africa and Asia (ENRICH)



**Where:** Bangladesh, Kenya, Myanmar, Pakistan, Tanzania

**When:** March 2016 – September 2020

**Direct Beneficiaries:**

2 million people including:

740,000 Children U2

835,000 Pregnant & Lactating Women

**Consortium Partner:** Nutrition International

**Implementation Partners:** Harvest Plus, Canadian Society for International Health, University of Toronto



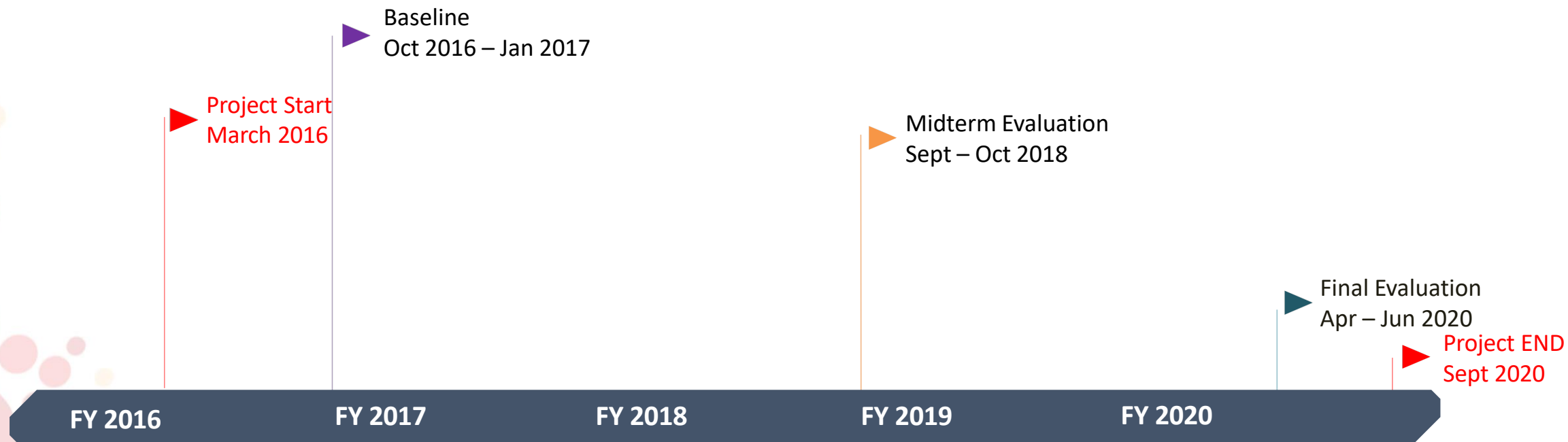
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## *Traditional M&E Timeline*



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# *Project Implementation: Observations, Challenges and Solutions*

- Changes in contexts, circumstances, needs/priorities
  - Donor required monitoring and reporting of Immediate Outcomes semi-annually and Intermediate Outcomes annually
  - Output and Activity monitoring identifies “what was accomplished” does not point to whether “we have done the RIGHT things” or “if what we are doing has resulted in change”
  - Lack of cost effective tools / platforms necessary to gather data for decision making and Annual Work Planning
- Frequent data collection is necessary for dynamic results based management
  - Negotiation of Annual Outcome Monitoring and reporting
  - Cost effective survey methodology required for knowledge + behavior change measurement







## *Lot Quality Assurance Sampling (LQAS) is a simple, low cost random sampling methodology*

Can help identify the level of coverage of the program area as a whole, AND

- Identify low coverage Supervision Areas (SAs):
  - learn causes of low coverage.
  - focus efforts and resources on SAs with low coverage
  - improve coverage of the whole program area by improving coverage in these SAs.
- Identify high coverage SAs:
  - study and learn what is working well.
  - identify strategies that can be applied to other SAs.

*Valadez, J., Weiss, W., Leeburg, C., Davis, R. 2003. Assessing Community Health Programs: A Trainer's Guide Using LQAS for Baseline Surveys and Regular Monitoring.*

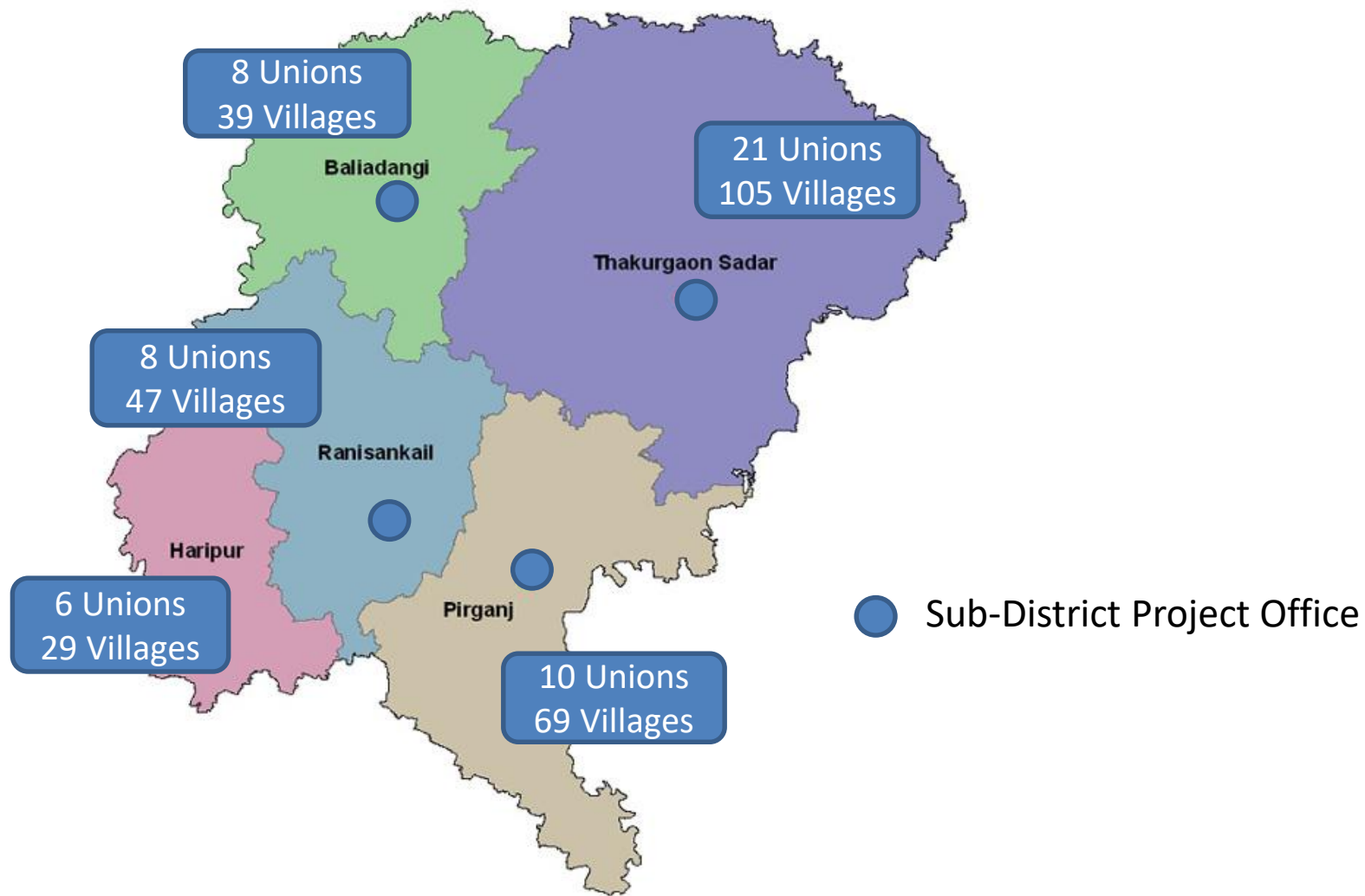


## ENRICH Primary Focus Areas - Thakurgaon District, Bangladesh

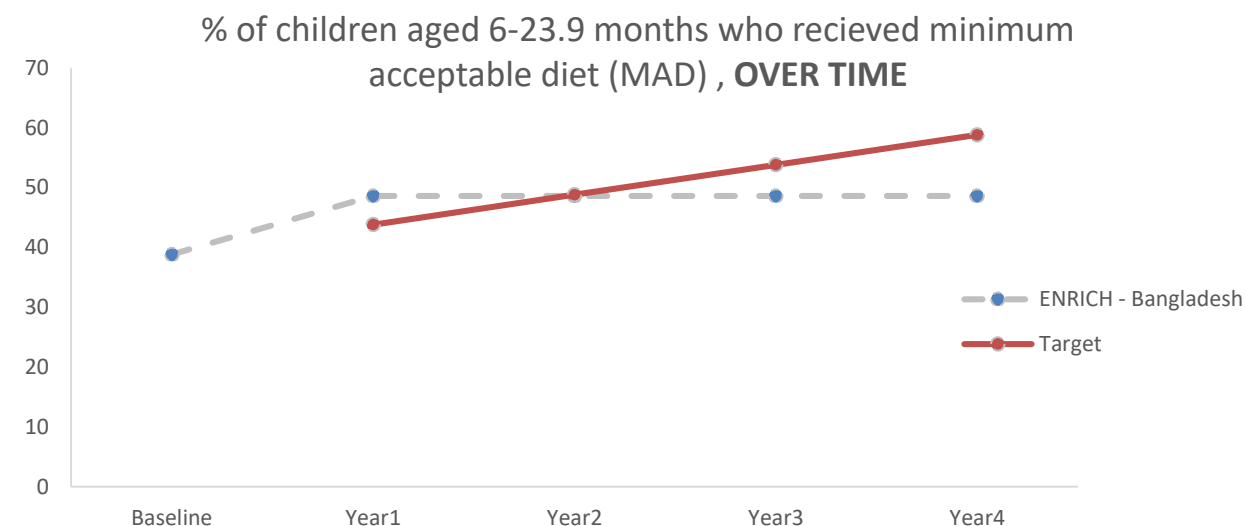
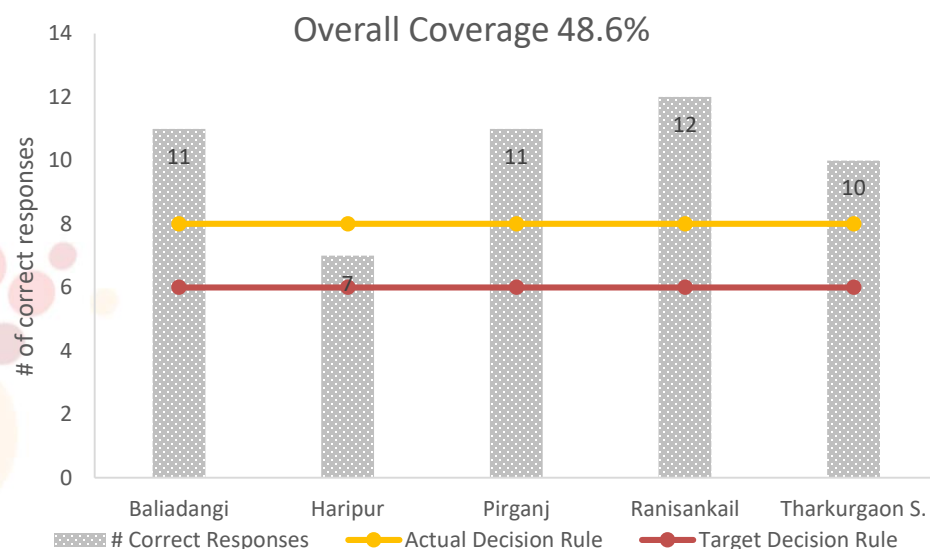
*Primary Focus Areas  
were identified and  
clustered into  
manageable  
implementation sites*

*Together, sub-Districts  
represent the Catchment  
Area*

*Individually represent the  
5 Supervision Areas*



		Supervision Areas								ACTUAL					TARGET							
Indicator	Survey Question	baliadangi	haripur	pirganj	ranisankail	thakurgaon_sadar	Total	Sample Size	Overall percentage	Decision rule	baliadangi	haripur	pirganj	ranisankail	thakurgaon_sadar	Percentage	Decision Rule	baliadangi	haripur	pirganj	ranisankail	thakurgaon_sadar
% of children 6-23.9 months of age, who received minimum dietary diversity and minimum meal frequency (Minimum Acceptable Diet)	Continued Breast Feeding	20	21	20	21	21	103	105	98.1	18	Y	Y	Y	Y	Y							
	Dietary Diversity	13	9	13	13	11	59	105	56.2	10	Y	N	Y	Y	Y							
	Meal Frequency	18	19	18	16	16	87	105	82.9	16	Y	Y	Y	Y	Y							
	Minimum Acceptable Diet	11	7	11	12	10	51	105	48.6	8	Y	N	Y	Y	Y	43.8	6	Y	Y	Y	Y	Y



*Using LQAS for programmatic decision making*

# Data Collection Tools / Platforms



## Monitoring Database

- Excel based (digital format in development)
- Tracks Activities/Sub-Activities
- Includes sex disaggregation

## Output Tracker

- Consolidation of monitoring data
- Reported semi-annually
- Includes sex disaggregation

## Annual Outcome Monitoring

- Lot Quality Assurance Sample (HH Survey)
- Qualitative Assessment
- Reported annually
- Age (not sex) disaggregation

## Evaluation

- Cluster Survey
- Qualitative Assessment
- Age and sex disaggregation
- External evaluator / Academic Partner





Over 1,000 CHW Trained



Almost 550,000 women and children receiving health education and services



Average increase of 35.5% in mother/caregivers visited by a CHW at least 1 in the past 3 months



635 Neonatal Deaths Averted

Over 32,000 farmers receiving training, seeds, small animals



Over 150,000 men women and children with increased access to nutritious and diverse foods



Average increase of 9.8% in Minimum Acceptable Diet among children 6-23.9months

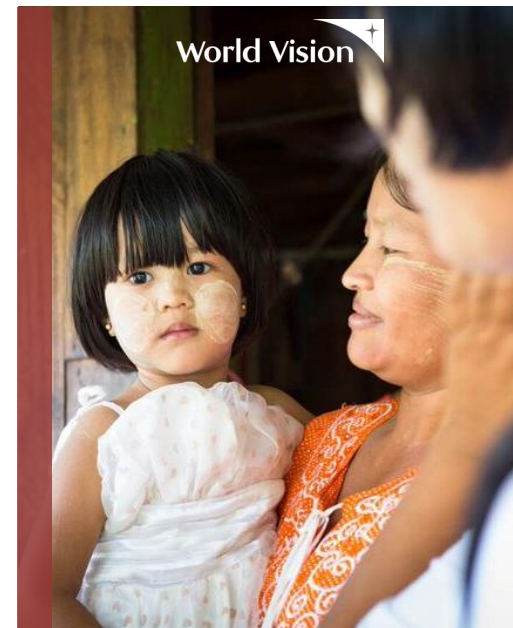


27 Maternal Deaths Averted

265 Health Facilities equipped



12.6% increase in GMP among children 0-23.9months, on average



*Our Goal: Impact Mapping – From Beginning to End*

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# Rudy Broers

Director, Monitoring and Evaluation  
Plan International Canada



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# Poverty and vulnerability in programmatic decision making



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# The Context: UN SDGs 2016-2030)



- 17 Sustainable Development Goals (Global Goals) to 'end poverty, protect the planet and ensure prosperity for all'
- Goals such as: no poverty; no hunger; good health; quality education; gender equality.
- Overall promise to '**Leave no one behind**' highlights a global responsibility to improve the situation of the poorest and most marginalized
- Clear need for data that highlights the situation of vulnerable groups



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# Project Targeting: An explicit focus on the most vulnerable



- **Bauchi Opportunities for Responsive Neonatal and Maternal Health (BORN)** Ultimate Outcome:
- Contribute to the reduction of maternal and neonatal mortality in targeted regions among the most marginalized and vulnerable women and newborns.
- **Strengthening Health Outcomes for Women and Children (SHOW)** Intermediate Outcomes:
- Improved utilization of essential health services by women of child bearing age (WCBA), adolescent girls, newborns & children under 5 living in poverty, with high vulnerability.
- Improved delivery of quality essential health services to WCBA, adolescent girls, newborns and children under 5 living in poverty, with high vulnerability.



# Considerations on Assessing Poverty and Vulnerability in Programming and Evaluation

- Defining vulnerability: *vulnerability defined broadly as risk to future well being of the household due to shocks etc.*
- During design, we may know some elements of both poverty and vulnerability from existing data sources and analysis
- However, during implementation, how can we better understand the progress being made by poor and vulnerable groups, and to understand if our programmes are being well targeted to the poor and vulnerable populations?



# Reaching the most marginalized:

## *Poverty and Vulnerability Indices:*

- **Poverty Index** – Poverty Probability Index (PPI) – 10 country-specific questions which are administered to assess likelihood that household falls below the poverty line.
- **Vulnerability Index** - was created by Plan International Canada to create a variable that would capture level of vulnerability through roughly 15 socio-economic questions asked about respondent as an individual as well as the household and then scored and categorized.



# Poverty Probability Index



## When:

- Like the vulnerability index, the PPI questions were integrated into the baseline survey and will be assessed again at midterm and endline
- Categorization was necessary in order to group respondents for analysis

## Scoring:

- 10 country-specific questions
- HHs classified as: very poor, poor, vulnerability non-poor, rich
- Types of variables vary by country

Examples: *ownership of land, televisions, mobile phones, vehicles, bicycles, livestock; education level; type of fuel, material used for floors, walls; location; remittances*





# Vulnerability Methodology



## When:

- The variables were collected as part of the baseline household survey and will be collected again at midline and endline
- While the baseline was administered to women with children under 2 and their spouses, these questions were only asked of women
- 15 socio-demographic questions

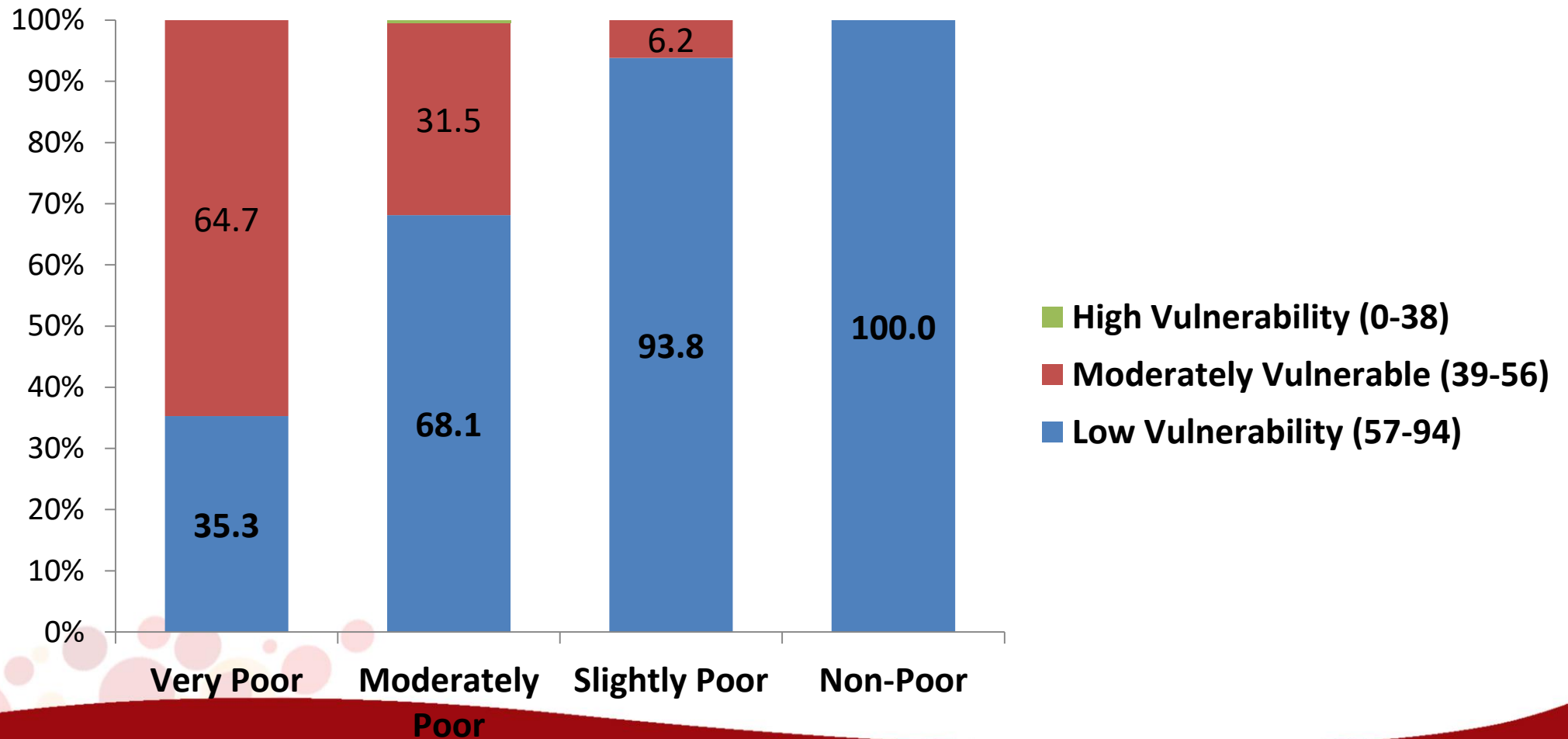
## Scoring:

- Each response received between 0 and 7 points (low scores for high vulnerability)
- No multiple-response or qualitative questions
- While the questions were consistent across the 6 contexts (5 countries, 2 projects), scoring was tailored to the local context
- Based on their scores, female respondents were categorized into three levels of vulnerability: low; moderate; and high

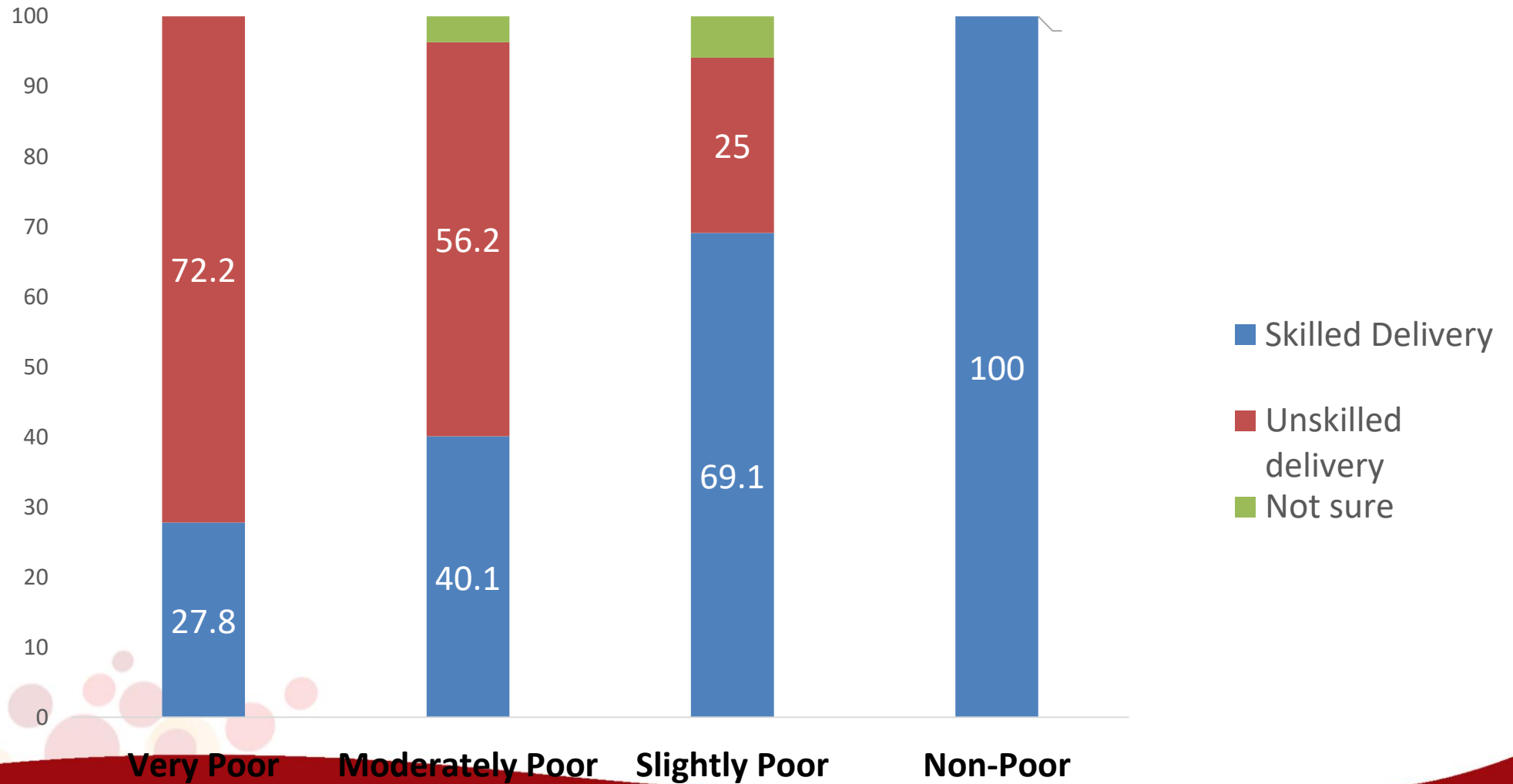


# Correlation between Likelihood of Poverty and Vulnerability

About 65% of the very poor are also moderately vulnerable, 32% of those who are moderately poor are also moderately vulnerable.

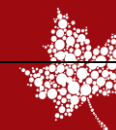
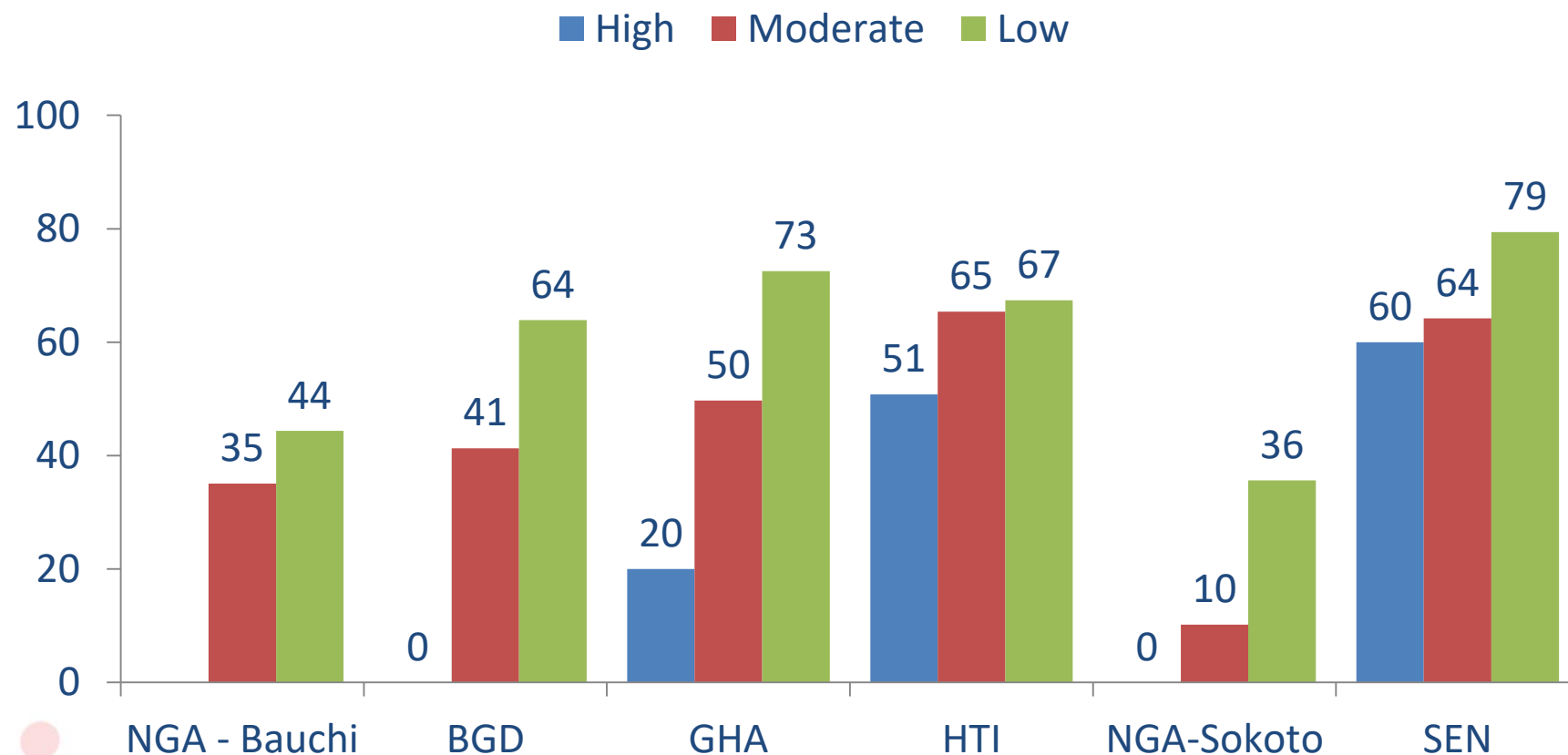


# Skilled Delivery at Birth by Poverty level



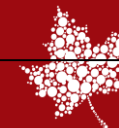
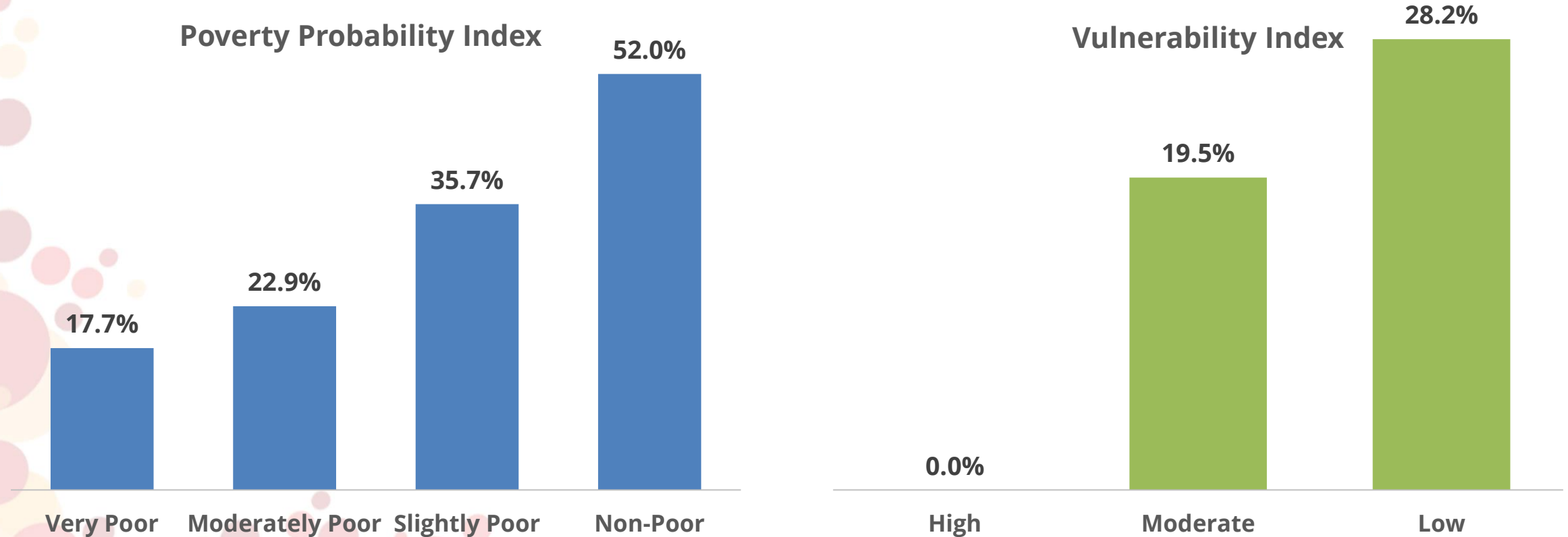
# Percentage of mothers 20-49 delivered with a skilled birth attendant (by vulnerability level)

*Vulnerability was statistically associated with skilled delivery among women aged 20-49 in Bangladesh, Ghana, Nigeria (Sokoto) and Senegal (Pearson Chi Square test based on a p-value of <0.05 )*



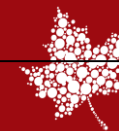
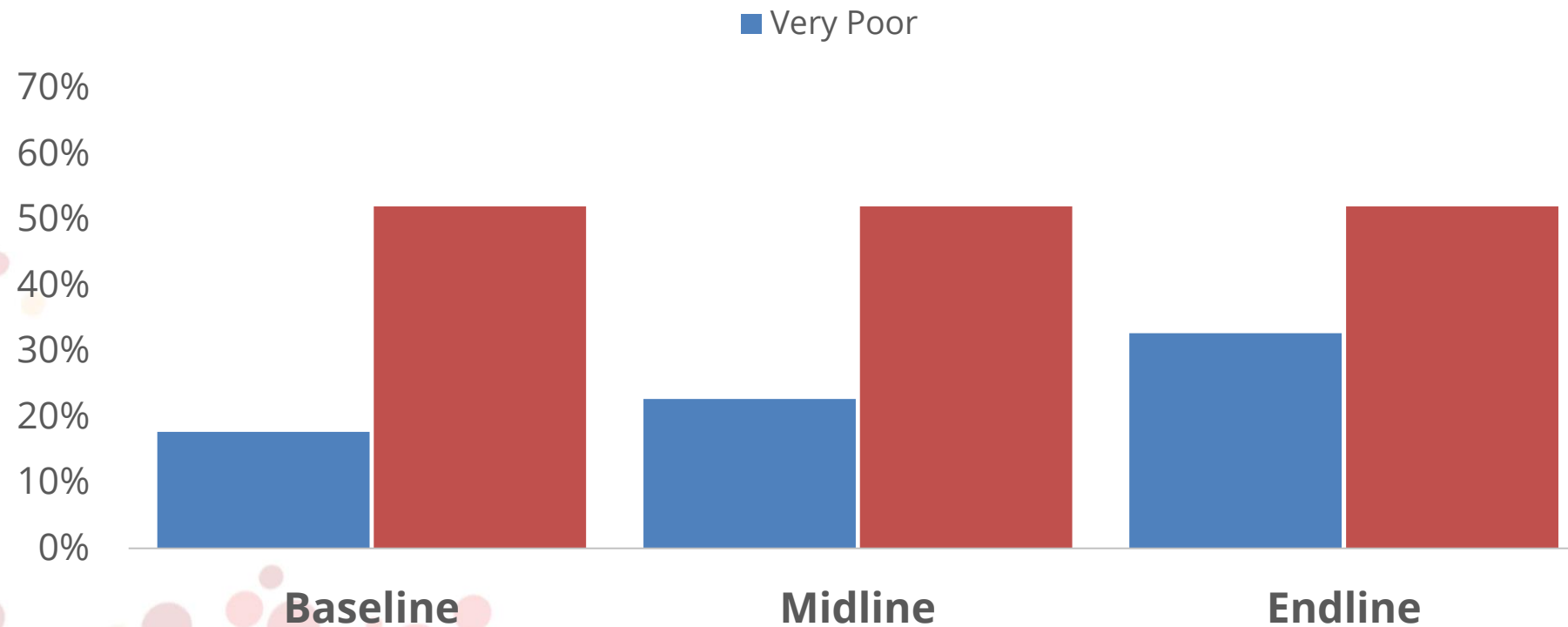


# Percentage of women 20-49 currently using any modern family planning method by PPI and Vulnerability, Senegal



# Using PPI for Project Evaluation (illustrative example)

% of women 20-49 currently using any modern FP method



# Lessons Learned on integrating Poverty and Vulnerability in Questionnaires

- Little additional time required in survey, and commonly asked socio-economic questions
- Exploring correlations between poverty and vulnerability allow us to eventually test and learn about the beneficiary population
- Testing vulnerability linkages in other sectors (education, protection etc)
- Keeping the focus on programming implications!



# Recommendations for use of these tools in evaluation

**Targeting:** Allows for improved, targeted interventions and can be used to measure change in poverty incidence through time.

PPI enables projects to show distribution of poverty status of beneficiaries

PPI is particularly useful where projects seek to achieve high impact for poorer households but have limited resources

**Evaluation:** Can be used to create a baseline and assess the effectiveness of interventions among the poorest and most vulnerable at midline and endline

To explore connections between level of poverty and vulnerability and key outcomes





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# In defense of data

*Peter R. Berti*



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# Data management is hard



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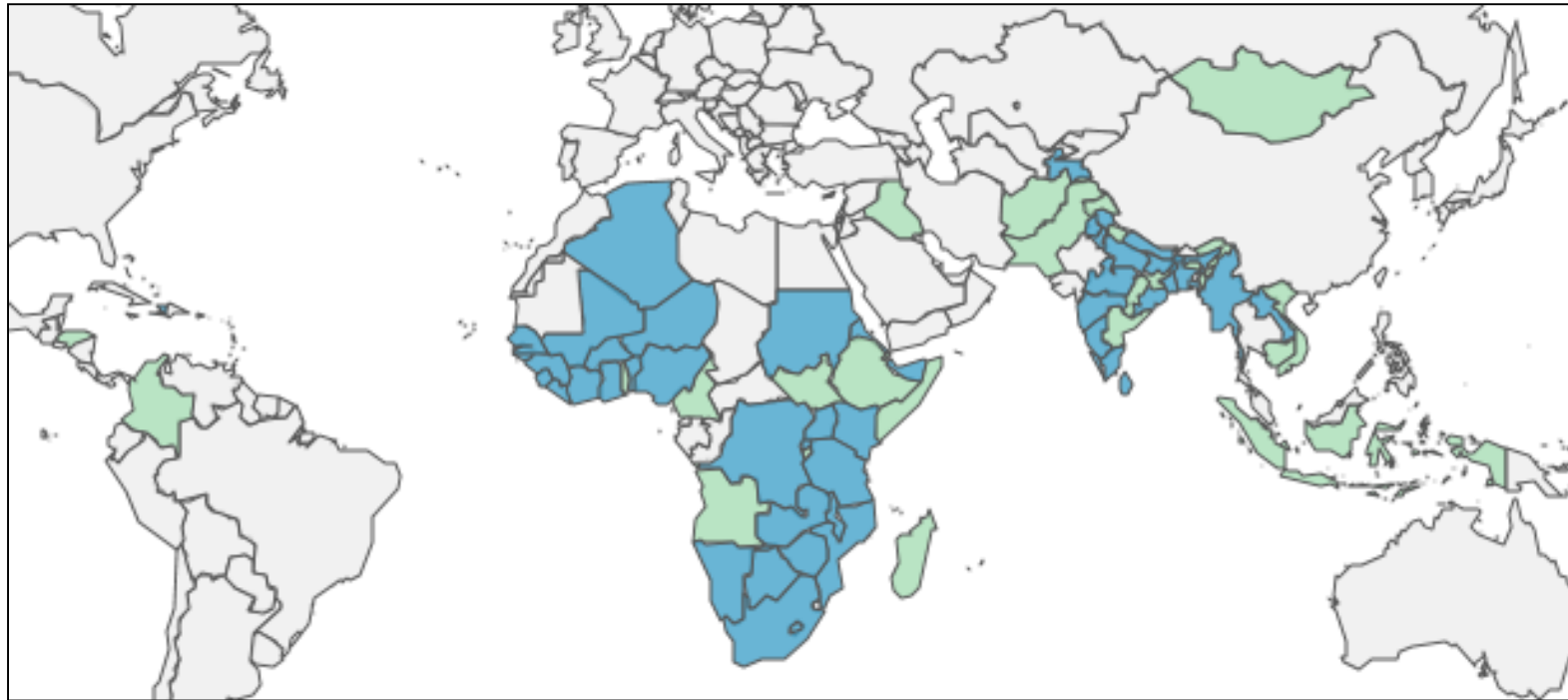
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dhis2

“DHIS2 is an open source software platform enabling governments and organizations to collect, manage and analyse data in the health domain and beyond.”



Source: <https://www.dhis2.org/inaction>




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# DHIS2 in CARE'S GROW AND SANI

 Practice Instance

Back ◀ ▶ Group Functionality

Enrollment

Tabular Data Entry

Group Functionality

Date of this meeting \*  
2018-04-05

**Meeting information**

Number of people present in the current meeting \*

Was the group leader present in the current meeting? \* ☐ Yes ☐ No

Is the group using the registration book? \* ☐ Yes ☐ No

Frequency of meetings \*

Does the group also engage on the following? \*

**What topics were covered during the last 6 months (check all that applies)?**

Basics of malnutrition ☐

Adolescent girls nutrition ☐

Maternal nutrition ☐





[Update profile](#) • 
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 1 unread message • 
 GROW 2. Groups

Messages

Interpretations

Search for users, charts, maps, reports and resources

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GROW 1. PMF

GROW 2. Groups

GROW 3. Trainings

GROW 4. maps

SANI 1. PMF

SANI 2. Groups

SANI 3. Trainings

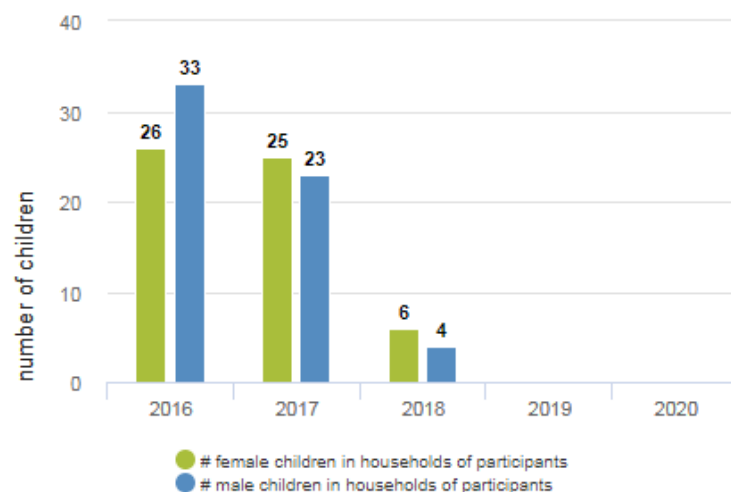
SANI 4. maps

Explore | Resize | Share interpretation | Remove



### Number of children in households of participants, by sex

Ethiopia

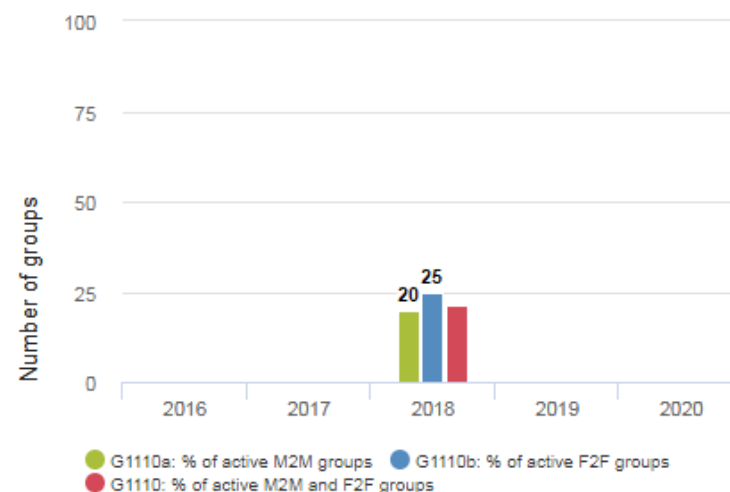


Explore | Resize | Share interpretation | Remove



### G1110: Percent of active M2M and F2F groups

Ethiopia



Explore | Resize | Share interpretation | Remove



### GROW Average number of attendees in group meetings

Ethiopia

Period / Data	Ave # female attendees per meeting per year	Ave # male attendees per meeting per year	Average number of attendees per meeting per year	Total
2016				
2017				
2018	13.8	11.1	24.9	49.8
2019				
2020				
Total	13.8	11.1	24.9	49.8

# Benefits and Challenges of DHIS2

## Benefits

- **Open-source**
- **Beautifully facilitated data management and data sharing**
- **Easy to report at any level in hierarchy**
- **Data in hands of decision-makers**
- **Opportunity to contribute to and integrate with national health systems**



# Benefits and Challenges of DHIS2

## Benefits

- **Open-source**
- **Beautifully facilitated data management and data sharing**
- **Easy to report at any level in hierarchy**
- **Data in hands of decision-makers**
- **Opportunity to contribute to and integrate with national health systems**

## Challenges

- **Open-source**
- **Very lengthy set-up**
- **To realize benefits:**
  - **Learning curve for data entry and management**
  - **Decision-makers must know how to interpret data**



## Issues not resolved by DHIS2 (or any data management system)

- **Misconstrued – same word, different understanding**
- **Misrepresentation – who do data represent**
- **Misunderstanding**





# Graphical Perception and Graphical Methods for Analyzing Scientific Data

William S. Cleveland; Robert McGill

*Science*, New Series, Vol. 229, No. 4716 (Aug. 30, 1985), 828-833.

## Rank of ability to accurately decode graphically presented data

1. Scatter plot
2. Multiple scatter plots
3. Bar chart
4. Pie chart
5. Bubble graph
6. Heatmap



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Thank You  
Merci



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