

RESEARCH BRIEF

Research in Practice:

Deploying Anticipatory Analytics for School Feeding Programs in Fragile Settings



Acceso



**SUMMITS
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ABOUT THIS BRIEF

This brief comes from the **Crisis-Resilient School Meals (CRSM) Haiti Pilot**, a multi-partner effort involving Summits Education, Acceso, the Haiti Food System Alliance, World Central Kitchen, and the Global Food Institute (GFI) at the George Washington University. Our goal is to strengthen the reliability and crisis resilience of school feeding and agricultural markets in Haiti's Central Plateau. This brief is part of an ongoing series focusing on different aspects of CRSM's work. This brief focuses on anticipatory analytics for school feeding in Haiti's Central Plateau.

For more information, contact globalfoodinstitute@gwu.edu and visit GFI's CRSM webpage at <https://globalfoodinstitute.gwu.edu/leveraging-school-meals-crisis-resilience-haiti-0>



[Summits Education](#) oversees school network and school feeding program operations in the Central Plateau.

[Acceso](#) connects local food supply to Summits Education by helping farmers grow more, sell more and earn more through technical assistance, financing, inputs.

[The Global Food Institute \(GFI\)](#) leads research and analytics for proactive decision-making and monitoring improvements in food system resilience.

[World Central Kitchen](#) provides technical insights and support for developing a resilience hub to enhance crisis response capabilities.

[Haiti Food System Alliance \(HFSA\)](#) coordinates partners and aligns project goals within Haiti's broader food system, facilitating effective implementation of the project.

What This Brief Covers

School feeding operations can turn routine operational data into a low-cost early warning system that has the potential to generate timely insights without new investment in data collection. This capacity can help support more efficient program operations and increase feeding consistency, even in areas with persistent challenges and disruptions.

This brief describes how GFI and Summits, as part of the CRSM pilot, are converting routine operational data into anticipatory insights for the school feeding program at Summits schools in Haiti's Central Plateau. It introduces four key dashboard capabilities and illustrates how each capability informs decision-making with examples using available data for the 2025-2026 school year.

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Authors: Global Food Institute (Sydney Pryor, Erica Gralla, Caitlin Grady, Michael Mann), Summits Education (Cassandre Regnier)



FROM REPORTING TO EARLY ACTION

School feeding programs are data-rich operations. Over years of implementation, they accumulate detailed school-level records on attendance, feeding performance, supply delivery, and community participation. Today these data, typically held in programs' standard operating and financial management systems, are used mostly to report what already happened, not to anticipate what is coming.

That distinction matters. In stable settings, the gap between data and anticipatory action can limit program performance. In fragile and conflict-affected contexts, it can limit children's access to daily meals. When transportation routes shift, markets fluctuate, schools open and close unpredictably, or supplies fail to arrive, operators need more than a backward-looking record of what happened. They need early signals that show where problems are building and where intervention is most likely to prevent disruption. The CRSM pilot is demonstrating how routine data can be converted into practical, anticipatory intelligence for a school feeding program in Haiti's Central Plateau.

What Anticipatory Analytics Actually Means

Anticipatory analytics do not require replacing existing systems or creating burdensome new data collection processes. It starts by reorganizing data that programs already collect so that changing trends, patterns, and risks become visible earlier – while there's still time to act. The goal is not to build a forecasting model or predict disruption. Instead, existing data that programs already collect can be repurposed to provide useful and timely decision-making information.

In practice, this means transforming routine data to shift from viewing isolated incidents to patterns over time. Isolated incidents like a school's missed feeding day, a change in student attendance, a missed food delivery, or a decline in volunteer capacity may each appear minor on its own. Viewed over time and across schools, those same data points can reveal where or when the system is under stress. For school feeding programs, this approach can help answer practical questions:

Which schools are beginning to struggle to deliver meals?

Which problems are recurring, and which sources of disruption appear most often?

Where should supervisor attention be focused first?

Which schools are at immediate risk of running out of food?

ANTICIPATORY ANALYTICS IN PRACTICE: THE CASE OF SUMMITS EDUCATION

GFI, in partnership with Summits Education, developed the Summits School Feeding Dashboard, an anticipatory analytics and decision-support tool that surfaces trends in feeding performance across Summits' school network. It helps Summits to identify where small problems are beginning to build, and to act before they evolve into crises.

The dashboard tracks feeding performance, student attendance, volunteer capacity, and stock, and flags emerging problems in each. It turns Summits' existing Monitoring, Evaluation, and Learning (MEL) data into a working tool that Summits' own team can run. It is built for immediate use, pulling available data automatically, and with room to incorporate new data over time.

Why it Matters

Haiti faces overlapping crises: insecurity, disrupted transportation, market volatility, and intermittent school operations. Conditions can shift quickly, and the ability to pivot fast is essential. Summits provides daily meals and education to thousands of students across remote, hard-to-reach communities. Reliable food delivery, accurate school-level data, and timely procurement are essential to keeping that model running. Summits has collected MEL data for years, but not in a form that surfaces vulnerabilities early. While their skilled team has the experience to anticipate and address issues on a case by case basis, this dashboard allows their leadership to scale assessment and response at a systems level.

Capabilities

The dashboard reads directly from Summits' data which include attendance, feeding, volunteer, and stock data from each school to produce a color-coded, plain-language report that regenerates on demand, and needs no data science background to use or read. The dashboard is built to adapt as Summits expands to new regions or programs. It gives Summits a continuously updated picture of how the feeding network is functioning across 311 schools in multiple communes and departments.

Key capabilities of the dashboard are described below, along with the implications of each capability for anticipatory action and resilience. The dashboard treats each data stream, e.g. feeding, stock, attendance, and volunteers, as a resilience signal instead of just a record of current performance. That gives Summits near-real-time visibility into how the program absorbs shocks from weather, supply disruptions, or conflict.



Table 1. Key Dashboard Capabilities for Decision-Support and Early Warning

	NEEDS	ACTIONS	IMPLICATIONS
Feeding Analysis (Network Level)	To compare planned and actual feeding across Summits' network over time and to catch acute and slow-moving disruptions.	Feeding rate trends across Summits' network visualize performance across schools and identify feeding challenges early – showing whether declines are driven by school closures or missed feeding on days schools were open, helping Summits target the appropriate intervention.	Summits can spot acute and slow-moving operational or value chain disruptions early, stabilize feeding schedules, and direct support appropriately before feeding fails.
Feeding Analysis (School Level)	To compare planned and actual feeding at the school level over time and identify schools with persistent feeding gaps.	Feeding rate trends by School identify which schools consistently miss planned feeding days and reveal the scale of missed meals, allowing Summits to prioritize support for specific schools, communes, or monitors.	Summits can intervene early with the right actors, directing resources to the schools where they will have the greatest impact to prevent small reliability issues from becoming chronic missed feeding.
Accountability Routing for Feeding Issues	To understand why and where school feeding problems occur and identify who is best placed to fix them.	Non-feeding reasons reveal why feeding may be failing across schools, showing which part of the school feeding system is driving disruption over time – schools themselves, donors, community (including volunteers), suppliers, or other reasons.	Summits can sort issues by type, learn where bottlenecks start, and correct them faster. The built-in routing mechanism enables Summits to assign each issue to its responsible owner, streamlining their response.
Food Stock Alerts	To track how many days of food, by type, each school has on hand.	Food stock alerts translate inventory volumes into days of food remaining, flagging schools at immediate risk of running out of rice, beans, corn, or oil and giving procurement teams a clear early warning signal.	Summits can prioritize deliveries before schools run out, strengthen procurement and inventory planning, and coordinate with suppliers and partners to prevent missed feeding.

INSIGHTS FROM THE SUMMITS SCHOOL FEEDING DASHBOARD, 2025-2026 SCHOOL YEAR

The Summits School Feeding Dashboard provides Summits leadership and staff with a clear picture of how the school feeding network is functioning and where stress is emerging. Using the last six months of Summits’ reported data covering the end of the 2025-2026 school year, the following insights demonstrate how the dashboard converts routine operational reporting into trends that reveal feeding patterns, schools struggling to meet planned feeding days, where disruptions originate across suppliers, partners, schools, and communities, and which schools are approaching critical food shortages. Together, these insights give operators visibility into not just what is happening, but why, and where attention is needed to prevent missed meals and strengthen resilience.

I. Feeding Analysis (Network Level): Understanding What Drives Feeding Consistency

The dashboard provides a month-by-month view of feeding consistency using two indicators to show trends in feeding over time: fed vs planned (the share of days children were fed when feeding was planned) and fed vs open (the share of days children were fed when school was open). These indicators allow Summits to see how feeding is going across their network and to distinguish when declines in feeding are due to school closures or to operational challenges causing missed feeding on days when schools were open. Looking at these indicators over time reveals patterns that a single-month snapshot cannot – whether feeding issues are isolated or part of a slow-moving decline. Across the last six months of the 2025-2026 school year, feeding consistency remained high, with feeding occurring on 85% or more of planned days and over 90% of days schools were open, with the exception of April (Table 2).

What does Summits do with this information? Summits uses these trends to target their management support resources appropriately across their network. When declines stem from school closures, Summits coordinates with school leadership to understand why schools are closed and what Summits can do to help. When declines stem from missed feeding on open days, Summits can direct monitors to investigate why students were not fed and help to remove the barriers. These patterns also support Summits to inform funders and partners about where support is needed and how feeding is changing over time to provide the most reliable and effective programming.

Table 2. Feeding Consistency Over Time for All Summits Schools (January - June 2026)

It is useful to track both the share of days children were fed when feeding was planned

School year		2025–26					
Month		Jan 26	Feb 26	Mar 26	Apr 26	May 26	Jun 26
Fed vs PLANNED		88%	87%	85%	77%	96%	86%
Fed vs OPEN		94%	93%	95%	88%	97%	90%

and the share of days children were fed when school was open.

II. Feeding Analysis (School Level): Pinpointing Where Feeding Consistency Can Improve

School-level feeding rates – the share of school days where children were fed when feeding was planned – show where feeding is working well and where consistency is slipping. School-level insights highlight which schools are struggling: which fed on the smallest share of planned days, the scale of missed meals across months, and geographic patterns across Summits’ network. The dashboard uses 2025-2026 data to identify several schools with persistent gaps where Summits can prioritize support efforts (Table 3).

What does Summits do with this information? Summits uses this information to prioritize school-level interventions, directing specific interventions to schools with the lowest feeding consistency. The dashboard also indicates who is the Summits school feeding staff or monitor for each school, enabling Summits to follow-up directly with the correct staff lead to determine how best to respond to the problem. This capability is useful for Summits to track both underperformance and overperforming (the more kids per feeding day, the less food they can have in stock). The dashboard identifies top performing schools, helping Summits to learn from schools with the highest feeding rates and replicate what works well across other schools.

Table 3. Feeding Rate Over Time by School (January - June 2026)

Tracking school-level feeding rates helps show where feeding is working well and where feeding consistency is slipping.

School	Jan 26	Feb 26	Mar 26	Apr 26	May 26	Jun 26	Average Days/Month
School 11	---	---	0/22	15/21	13/19	0/4	7
School 3	5/15	11/20	15/22	14/21	19/19	2/5	11
School 7	13/15	8/17	13/22	19/21	13/19	0/5	11
School 20	9/15	14/17	14/22	9/20	16/19	4/4	11
School 24	9/15	17/17	16/22	9/21	17/19	1/5	11.5
School 12	6/15	13/17	19/22	9/21	18/19	4/4	11.5
School 23	6/15	4/17	17/22	8/20	18/19	3/4	9.3
School 21	14/15	8/20	15/22	9/21	19/19	0/5	10.8

Rank	School	Commune	Feeding Rate	Weeks
1	School 14	Thomonde	100.0%	20
2	School 19	Thomonde	100.0%	20
3	School 27	Boucan-Carré	100.0%	20
4	School 1	Cerca-Carvajal	100.0%	19
5	School 6	Boucan-Carré	100.0%	21
6	School 30	Thomassique	100.0%	21
7	School 2	Hinche	100.0%	20
8	School 28	Boucan-Carré	100.0%	22
9	School 31	Thomonde	100.0%	21
10	School 4	Hinche	100.0%	19

Rank	School	Commune	Feeding Rate	Weeks
1	School 11	Thomonde	42.1%	14
2	School 23	Cerca-la-Source	58.5%	20
3	School 21	Boucan-Carré	64.6%	12
4	School 3	Thomonde	66.0%	21
5	School 39	Savanette	69.7%	17
6	School 29	Cerca-Carvajal	70.0%	20
7	School 5	Boucan-Carré	72.0%	20
8	School 22	Mirebalais	74.7%	19
9	School 32	Savanette	74.7%	19
10	School 17	Lascahobas	76.2%	21

The dashboard then outputs feeding rates of higher & lower performing schools by rank to help the team prioritize schools needing attention.

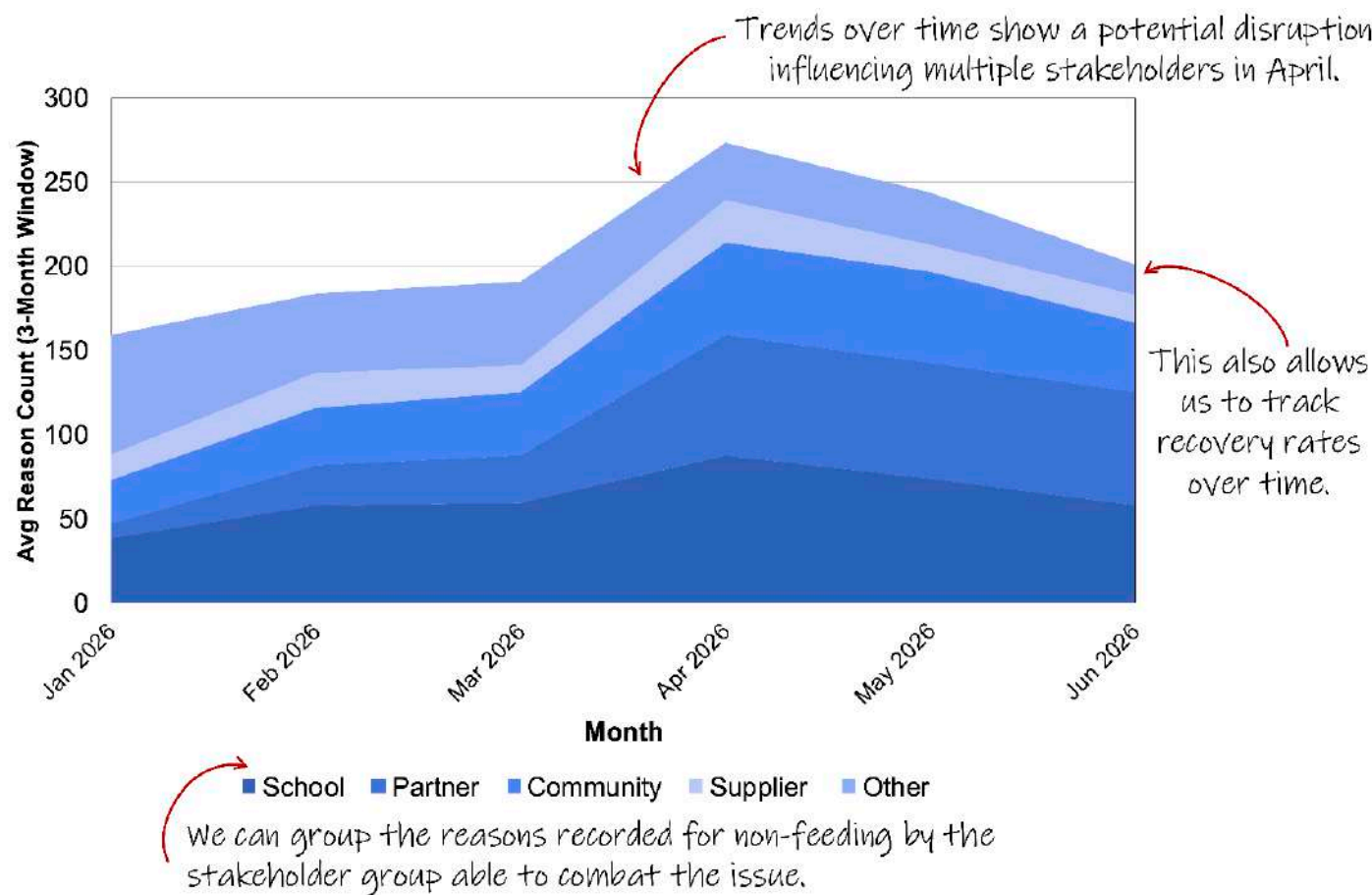
While the example shows real school data, the school names and commune names have been changed to protect anonymity.

III. Accountability Routing: Explaining Missed Feeding

Schools report the reasons why feeding was missed, showing where disruptions originate. Across the last six months of the 2025-2026 school year, partners and limited funding resources were the most common source of disruption (e.g. “Not enough food was ordered/delivered” (80%), “Food was ordered/delivered late” (20%)), followed by schools (e.g. “Decided not to cook” (65%) or “No food to cook, because of theft, misuse or spoilage” (35%)), then community (“No volunteer cooks” (63%) who are often parents, “No fuel and/or water” (37%)), with food supplier (i.e, Acceso) issues least frequent (e.g. “Food was delivered late”(82%), “Food was damaged or in bad condition” (18%)).

What does Summits do with this information? This information makes visible to Summits the sources of missed feeding. Summits is able to connect with the responsible actor in a timely manner and require corrective action for recurring issues. For example, Summits may work directly with school leadership when school-specific issues are reported, better coordinate with donors when partner-related disruptions appear to share needs across their network, or allocate resources to mobilizing volunteers when community issues are frequent.

Figure 1. Reasons Schools Did Not Serve Meals (Average)



This chart represents a 3-month moving average of the count associated with a non-feeding reason grouped by where that reason originated. For example, we associated the reason “not enough food available to cook” with the stakeholder group “school”, “not enough food ordered/delivered” was labeled “Partner”, “food delivered late” was labeled “Supplier”, “no volunteers” was labeled “Community” and so on.

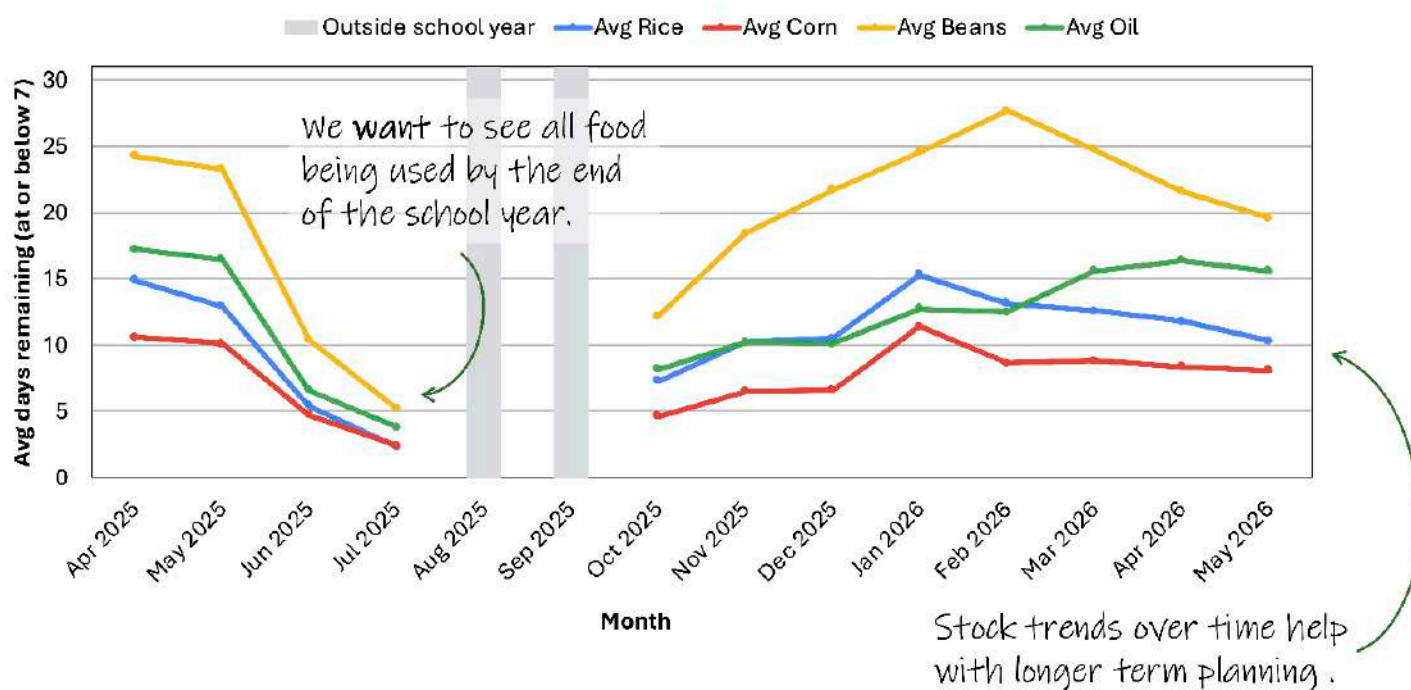


IV. Food Stock Alerts: Identifying Schools at Immediate Risk of Running Out of Food and Stock Trends across the School Network

Stock alerts translate inventory volumes into days of food remaining across the network and at each school, flagging schools at immediate risk of running out of rice, beans, corn, or oil. In the 2025-2026 data, food stocks are lowest at the beginning and end of the school year. Network-wide trends show that beans were consistently the most stable commodity with more days of stock available each month compared to rice, corn, or oil.

What does Summits do with this information? Summits uses food stock alerts to strengthen planning and targeted interventions at the school, commune, and network levels. Schools with very few days of food remaining are prioritized for delivery, preventing missed feeding before it occurs. Commune-level shortages may trigger coordinated resupply planning. Network-wide trends inform broader procurement strategy and potential buffer-stock decisions for various foods. Summits also uses these trends to more effectively collaborate with suppliers on delivery timing and anticipating future needs across the Central Plateau.

Figure 2. Average Days of Food Remaining, by Month



THE LARGER OPPORTUNITY

This example illustrates the benefits of leveraging school feeding data for anticipatory action. It is context-specific, but the underlying opportunity is much broader.

The process of turning routine operational data into a low-cost early warning system has the potential to allow organizations to generate timely insights and feed information back each cycle without new investment in data collection. GFI is developing this method for use beyond Haiti and welcomes conversations with practitioners, researchers, and funders working on similar challenges in school feeding and other frontline programs.

Boîte de mot

o(8)	os	ot	ai	eau
un domino	le dos	bouricot	une auto	le drapeau
une dodine	le pos	au trot	jaune	le chapeau
une école	le repos	le dépôt	Laurie	le bateau
un cachon	les os	tôt	Sauter	l'eau
le bocal	nos	le mot	épaule	un poireau
Verso		matelot	gauche	un seau
micro		un magot	Maude	un toureau
loto		maillot	Paula	un couteau

Boîte de mot

in	im	ain	aim	ein
le matin	impossible	une main	faim	ceinture
une pintade	une tumbre	un bain		frein
un lapin	impropre	un refrain		plein
le jardin	imprudent	Demain		teinture
le moulin	imbécile	Pain		peinture
information	impassé	grain		
ingrat	imparfait	terrain		

TEVENLIE DANS
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decroissa 10 9 8 7 6 5 4 3 2 1 0



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