



World Food Programme

SAVING LIVES  
CHANGING LIVES

# Updated Return on Investment for Preparedness to Respond study

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# Acknowledgements

Preparedness is never the work of a single team—it is a discipline that binds how WFP predicts risks, takes decisions under uncertainty, and delivers rapid, effective assistance when it matters most. This report reflects a truly cross-functional effort, bringing together practitioners, technical specialists and analysts from across WFP to contribute operational insight, evidence and constructive challenge.

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# Executive Summary

This report presents a major revision of WFP's methodology for calculating the Return on Investment (ROI) of preparedness interventions, delivering a realistic and comprehensive assessment of impact.

It strengthens the evidence base on the benefits of investing in emergency preparedness by examining how such investments affect key indicators—operational cost and speed, as well as human well-being, economic, and social outcomes—during emergency response. The analysis provides insights to help WFP, donors, and partners understand the value and potential forms of preparedness investments and informs ongoing discussions about how sustained investment can enable more efficient and effective crisis response.

The findings confirm that preparedness gains arise from an interconnected, systemic approach, not isolated investments, multiplying returns and enabling WFP to deliver faster, more efficient, and more equitable emergency responses.

Preparedness investments deliver strong returns, with an average ROI of 3.4—every dollar invested saves USD 3.40 in emergency response costs. Returns are driven by investment in data and systems, including early warning systems, operational capacity development, government leadership and coordination, and anticipatory action. Across all cases where financial ROI was quantified, returns exceeded costs—underscoring the strength of WFP's preparedness portfolio.

Time savings are equally significant: WFP can now respond to an emergency 25 days faster, and operational gains have improved by 11 days compared to previous studies. Local pre-positioning of food in disaster areas cuts response time by 65 days. Anticipatory Action has transformed WFP's ability to deliver assistance, enabling access to funds within minutes rather than months and ensuring rapid implementation. Time savings of Anticipatory Action Interventions average 59 days per emergency.

Additionally, global preparedness investments deliver transformative advantages, leveraging economies of scale to achieve substantial time and cost savings—critical for speed and reliability in emergencies. The roll-out of a Self-Registration Application has achieved an ROI of 19. The Global Commodity Management Facility shortens procurement and delivery by about 100 days, ensuring commodities are available when crises strike.

Beyond efficiency, preparedness delivers broader, critical benefits. Interventions sustained assistance during emergencies, preventing children from falling into acute malnutrition and enabling rapid, life-saving responses. Economically, investments stabilized local markets, preserved purchasing power, and sustained trade and livelihoods during shocks. Socially, WFP's measures fostered trust and peacebuilding, improved gender dynamics and inclusive access for marginalized groups, strengthened collaboration with governments, and enhanced community cohesion and confidence in humanitarian response.

# Introduction

The global humanitarian landscape is increasingly shaped by more frequent, larger, and longer-lasting crises, along with a surge in the number of people affected. Acute hunger and malnutrition remain major challenges. At the same time, humanitarian funding is failing to keep pace with escalating needs. These trends underscore the urgency of humanitarian organizations to invest in strategies that enhance the efficiency and impact of its response.

Emergency preparedness has emerged as a proven mechanism to enable faster, more cost-effective, and higher-quality responses. However, while the sector has advanced toward risk-informed, early and anticipatory approaches, the benefits of preparedness investments are rarely measured systematically. To address this gap, WFP, in collaboration with UNICEF, UNHCR, and OCHA, developed a methodology in two phases (2015 and 2017) to assess the return on investment (ROI) of preparedness. A third study in 2024, conducted by the Emergency Telecommunications Cluster (ETC), developed a methodology specifically tailored to assess preparedness investments within the telecommunication sector.

This report builds on the foundations laid by these previous studies. Its key objectives are to refine the ROI methodology using lessons learned from the earlier studies, strengthen empirical evidence on the benefits of preparedness within today's challenging humanitarian context, and provide actionable insights to guide decision-making for WFP and its partners.

The primary audience includes WFP decision makers and a broader global community—governments, donors, and external partners—reflecting the emphasis on organization-wide results and impact for advocacy and strategic engagement. It also offers insights for programme officers, practitioners, and country

office management to support planning, while acknowledging that applicability may vary across contexts.

Drawing on previous studies, the methodology has been revised to incorporate lessons learned, strengthen existing concepts and address identified gaps. A key priority was its flexibility, which enables the capture of WFP's diverse operational contexts and complex investment profiles. Core calculations and variables have been clearly defined and standardized to ensure consistency and allow comparability of current ROI estimates with future applications. Impact measurement has been broadened to integrate both quantitative dimensions—such as cost and time savings—and qualitative aspects, including human well-being, economic resilience, and social effects. Finally, a user-friendly tool has been developed to facilitate the continued estimation of ROIs for preparedness investments by WFP and its partners.

WFP's preparedness investments are diverse, reflecting the complexity of humanitarian operations. The investment portfolio encompasses both established investment categories—such as Infrastructure, Pre-positioning, Staffing and Learning, and Data and Systems—and newer areas, including Technical Assistance to Government, as well as Anticipatory Action Interventions. Furthermore, this study expands the scope to include global preparedness initiatives.

The report begins with a review of existing literature, followed by an overview of WFP's preparedness approach and the selection of case studies. Next, the revised methodology is presented, outlining key improvements and practical considerations. This is followed by the results section, which details findings across investment categories and global initiatives. The report concludes with a synthesis of insights.

# Background

In recent years, the concept of Return on Investment (ROI) in emergency preparedness has gained traction across the humanitarian and development sectors. In the past decade, WFP developed and refined methodologies to assess the ROI of emergency preparedness through three key studies: the initial UNICEF and WFP (2015) study, the expanded inter-agency study (OCHA, UNHCR, UNICEF and WFP, 2017), and the ETC (2024) model. These studies complement and build on a range of other ROI analyses undertaken by other stakeholders and available in the public domain, providing the foundation for understanding both the quantitative and qualitative benefits of preparedness interventions.

In this section, we first summarize the scope and methodological evolution of these three studies. We then present an overview of their key findings, complemented by evidence from other relevant reports and research. The findings are grouped under the investment categories outlined in this study. Finally, we synthesize lessons learned from these studies and explain how these insights informed the principles and design of the methodology applied in this assessment.

UNICEF and WFP (2015) introduced the first ROI model for emergency preparedness, focusing on quantifying cost and time savings from preparedness investments. Investments were grouped into six categories: Pre-positioning, Infrastructure, Long-term Agreements, Trainings, Additional resources, and Partnership Agreements. Impact metrics were primarily financial ROI and time savings (measured in days),

while qualitative benefits were acknowledged but not systematically assessed. The methodology applied a discounted cash flow approach and compared “with” and “without” investment scenarios. The ROI was calculated for three case study countries (Chad, Madagascar and Pakistan) in total for 49 investments.

Building on the 2015 model, OCHA, UNHCR, UNICEF and WFP (2017) expanded the methodology to include a broader range of indicators and agencies. It introduced a standardized toolkit and spreadsheet-based tool to enable consistent application across activities and contexts. Key enhancements included the integration of the additional impact dimensions greenhouse gas (GHG) savings, contribution to response quality, and indirect effects. Investment categories were revised to six areas: Data Systems, Infrastructure/Process Pre-positioning, LTAs/PCAs, Skills, Supplies and Equipment Pre-positioning, and Coordination. Building on the number of cases from the previous study, additional 35 investments were analysed in Niger, Myanmar and Uganda.

ETC (2024) developed a sector-specific ROI model for emergency telecommunications preparedness, combining a quantitative financial ROI and qualitative components in a single framework. Qualitative benefits were systematically assessed across four dimensions: reduced response time, reduced human impacts, reduced economic impacts, and reduced social impacts. Investment categories were streamlined into three areas: Coordination, Capacity Development and Training, and Infrastructure and Technology Enhancement.

# Summary of the Evidence

Evidence from multiple studies consistently shows that investments in emergency preparedness deliver positive and often substantial returns. These benefits go beyond financial savings, contributing to faster response times, improved efficiency, and stronger resilience of humanitarian systems.

The UNICEF and WFP (2015) study reported an average ROI of 2.1 across interventions, with some categories achieving significantly higher values. Training and capacity-building interventions were particularly cost-effective, while infrastructure investments also demonstrated strong returns. Most interventions delivered meaningful time gains, reducing response times by an average of about 10 days.

Similar findings emerged from the Inter-agency ROI study (OCHA, UNICEF, UNHCR, WFP, 2017), which reported an average return of 2.6 for every unit invested and estimated an average time saving of 14 days.

More recently, the ETC (2024) model estimated an ROI of 2.8 and underscored the significance of qualitative benefits—such as improved coordination and reduced social disruption—alongside financial metrics.

The following paragraphs summarize key findings for each investment category analyzed in this report, using evidence from WFP studies alongside other external analyses.



## INFRASTRUCTURE

Infrastructure and equipment investments consistently deliver strong returns. Evidence from UNICEF and WFP (2015) across Chad, Pakistan, and Madagascar found that large infrastructure projects achieve high cost-effectiveness. For example, the Tissi airstrip rehabilitation in Chad

resulted in an ROI of 7.7, underscoring the value of strategic infrastructure improvements. OCHA, UNHCR, UNICEF and WFP (2017) report that converting a warehouse storage area into an Advance Positioning Centre (APC) for interagency use yielded an ROI of 3.15.



## PRE-POSITIONING

Pre-positioning supplies before disasters has shown considerable time savings, but also consistent efficiency gains (see UNICEF and WFP (2015), and OCHA, UNICEF, UNHCR, WFP (2017). International supply pre-positioning caused the largest time savings—49 days—in the UNICEF and WFP (2015) study. A study by HELP Logistics, KLU, and ACF (2017) demonstrated that early investments in Haiti and Nepal reduced response times by up to 21 days and cut costs by over 40%. CARE USA (2017) similarly highlighted time savings of 35 days in Madagascar.

These findings confirm that pre-positioning is a high-return strategy for improving operational efficiency and reducing logistical bottlenecks.



## STAFF AND LEARNING

Investments in staff capacity and learning have yielded both high financial and operational benefits. In OCHA, UNICEF, UNHCR, WFP (2017), a Skills/ Training activity generated the highest return, and Emergency Management (WEM) trainings enabled faster deployment of appropriate staff and resulted in 41 days of time savings.

In ETC (2024), Capacity development and training had the highest ROI

among the investment categories, at 5.2. The Disasters and Emergencies Preparedness Programme (DEPP) ROI study (PwC, 2018) reported an average ROI of 2.84 across projects in Ethiopia and the Philippines, with time savings of over a month per emergency. CARE USA (2017) found that training and process improvements in Nepal accelerated response by up to 12 days.

Beyond financial metrics, these investments strengthen social capital and resilience, as shown by projects that improved protection and reduced psychosocial stress during crises (PwC, 2018; CARE USA, 2017; Kousky et al., 2017).



## DATA AND SYSTEMS

Data readiness and system strengthening deliver high returns through improved decision-making and reduced losses. In OCHA, UNICEF, UNHCR, WFP (2017), data systems led to substantial time savings; for example, food security monitoring through phone interviews (mVAM) resulted in a 23-day reduction during emergencies. The DEPP study emphasized systemic benefits from early investments in local empowerment and coordination (PwC, 2018). Fakhruddin and Schick (2019) showed that cyclone early warning systems in Samoa could prevent over 80% of losses, with benefit-cost ratios up to 6:1.

These findings highlight the critical role of information systems and local capacity in enhancing preparedness and response effectiveness (Fakhruddin & Schick, 2019).



## TECHNICAL ASSISTANCE TO GOVERNMENT

Strong coordination and governance frameworks amplify the impact of preparedness investments. CARE USA (2017) demonstrated that implementing SOPs across flood-prone districts in Nepal improved joint planning and accelerated responses. The 2024 WFP Emergency Preparedness Policy Evaluation confirmed that government-led coordination, policy development, and simulation exercises significantly strengthen national capacities (WFP, 2024). Additionally, PwC (2018) finds that projects prioritizing local empowerment and professionalization achieve the highest returns.



## ANTICIPATORY ACTION INTERVENTION

Anticipatory action interventions generally show strong positive returns. FAO (2023a) reported Benefit-Cost Ratios (BCRs) ranging from 0.46 to 7.1, with the highest returns in Ethiopia and Mongolia, where anticipatory support significantly reduced losses and protected livelihoods. Even in contexts with lower BCRs, such as Vietnam and Bangladesh, interventions still delivered measurable benefits (FAO, 2023a; FAO, 2023b). A WFP study in Nepal (2019) found that forecast-based financing reduced damage by 75% and improved coordination. FAO (2020) documented similar gains in the Philippines, where anticipatory measures enhanced food security and gender equity.

Overall, evidence confirms that timely, targeted actions before crises reduce humanitarian needs and strengthen resilience (FAO, 2020; FAO, 2023; WFP, 2019).

# Conceptual Approach and Objectives

Building on the evidence summarized above, this study updates and strengthens the evidence base on the benefits of investing in emergency preparedness by examining effects on key indicators—cost, speed, and humanitarian, economic, and social outcomes—during emergency response. The analysis provides decision-relevant insights for WFP, donors, and partners on the value and potential forms of preparedness investments and informs ongoing

discussions on how sustained investment can enable more efficient and effective crisis response.

This section outlines the conceptual approach, including the definition of preparedness and the investment categories considered. It also describes the systematic process applied to map and select relevant activities. In total, 19 preparedness activities were analyzed.

## Preparedness

Preparedness, as defined in WFP’s Emergency Preparedness Policy (2017), refers to the actions taken to anticipate, prepare for, and implement pre-emptive measures prior to an event, enabling timely, effective, and appropriate emergency response. This includes building the knowledge and capacities of governments, communities, and organizations to manage risks and respond to disasters efficiently. The policy emphasizes preparedness as a strategic, multi-level effort grounded in risk analysis, early warning systems, contingency planning, and coordination with national and local actors.

In the context of this ROI study, we apply this definition to encompass all investments that enable WFP and its partners to respond faster, more efficiently, and at lower cost during emergencies. Earlier conceptions of preparedness were largely focused on bricks-and-mortar solutions—such as stockpiling food and building warehouses—but the approach has evolved into a more expansive view that includes systems, processes, capacities and anticipatory measures designed to reduce response costs and improve outcomes for affected populations. Our scope includes both internal WFP capacities and support to national systems, reflecting the policy’s

emphasis on national ownership and context-specific preparedness.

The activities analysed in this study are organized into six investment categories:



**Infrastructure** - Investments in physical assets and facilities—such as staging areas, and roads—that enable rapid and effective emergency response.



**Pre-positioning** - The advance placement of food and non-food items in strategic locations to ensure timely delivery during emergencies.



**Staffing and Learning** - Building and maintaining skilled personnel and providing training or simulation exercises to enhance emergency preparedness and response capacity.



**Data and Systems** - Investments in data gathering, information readiness, and the development and deployment of information systems and early warning tools to improve decision-making and operational efficiency.



### **Technical assistance to government -**

Supporting national and local governments in strengthening their disaster preparedness and response systems through capacity building, technology, and advisory services.



### **Anticipatory Action Interventions -**

Implementing measures triggered by forecasts or risk indicators to mitigate disaster impacts before they occur.

This report deliberately includes activities examined in previous studies, such as building infrastructure to deliver assistance during emergencies and the classical pre-positioning of food and non-food items. It also considers the availability of experienced and trained staff for emergency response.

Compared to the studies conducted a decade ago, this iteration places stronger emphasis on data and systems. In recent years, WFP has invested significantly in data capabilities and innovative systems that leverage technological advances, including early warning tools.

Another major development is WFP's investment in strengthening the capacity of host

governments—both for emergency response and broader sectors—benefiting not only WFP but also national systems. Similar to ETC (2024), this analysis captures the ROI of Technical Assistance to Governments.

Anticipatory Action represents a key example of new activities. It links early warning triggers—such as river water levels exceeding a threshold—to pre-disaster interventions like cash transfers. These measures help households prepare for floods, reducing the need for costly emergency assistance later. Anticipatory Action also relies on pre-arranged financing that can be released immediately when triggers are met.

Finally, previous studies focused primarily on in-country investments. However, WFP operates more than 80 country offices, maintains a presence in over 120 countries and territories, and five regional offices. Preparedness therefore also occurs at global and regional levels. Investments at these higher levels can generate significant benefits through economies of scale or by enabling large-scale rollouts. This study expands the scope to include global investments, offering a more holistic perspective on preparedness and its returns.



WFP/Luc Junior Segur

# Selection of Preparedness Activities

Preparedness within WFP is broad and often embedded in activities that serve preparedness objectives without being explicitly labeled as such. For example, vulnerability assessments that identify where at-risk populations live are critical for rapid targeting during emergencies.

Using a broad definition—any pre-shock activity that reduces response costs or improves efficiency of emergency response—activities were mapped where preparedness is a primary objective. To capture the full breadth of WFP’s preparedness portfolio, the study reviewed reports and guidelines and consulted technical experts. In total, 60 activities were identified, spanning both country-level and global initiatives.

Analyzing all 60 activities was not feasible. Therefore, a shortlisting process was applied based on quantitative and qualitative criteria.

**Quantitative criteria:** These include measurable factors such as how often a preparedness activity was implemented following prefinancing by WFP’s Immediate Response Account (IRA), an internal funding mechanism available to Country Offices and other WFP offices and divisions for the purpose of timely response and/or facilitating preparedness investments in operational efficiency and effectiveness between 2015 and 2024. Additionally, the number of Country Offices (COs) that implemented the activity was considered.

**Qualitative criteria:** These cover aspects that influence feasibility and robustness of analysis, such as expected data availability, anticipated data quality, and the presence of a realistic counterfactual for comparison.

This process resulted in a smaller set of activities selected for in-depth analysis.



WFP/Oluwashina Oni

# Activities Analysed in the Study

Ultimately, 19 case studies across the six investment categories were analyzed. Country offices were identified in consultation with technical colleagues, with participation

determined by data availability and operational constraints. Table 1 presents all activities included in the analysis along with their respective case study locations.

**Table 1: Preparedness Activities and Locations by Investment Category**

Investment category	Activity	Location
Infrastructure	Set up Humanitarian Staging Area (HSA)	Malawi
	Set up Humanitarian Staging Area (HSA)	Nepal
	Improve Local Infrastructure	South Sudan
Pre-positioning	Pre-position Food at Local Level	Malawi
	Pre-position Food and NFIs at Local Level	Cuba
	Pre-position Food at Regional/Global Level using Global Commodity Management Facility (GCMF)	Global
	Pre-positioning specialized nutritious foods at Regional and Global	Global
Staffing and learning	Conduct Emergency Simulations	Malawi
	Establish Rapid Start Emergency Training	Global
	Maintain a Rapid Response Team - Nutrition in Emergencies Roster	Global
	Maintain Short-term Staff Availabilities for Emergency Response	Malawi
Data and Systems	Establish a Self-Registration Application (SRA)	Global
	Set up an Early Warning System	Malawi
	Use Nutrition Data for Operations	Global
	Maintain a Famine Early Warning System	Afghanistan
Technical assistance to government	Support the Development of a Mechanised Packing System (MPS)	Philippines
	Support the Implementation of a Commodity Tracking System (CTS)	Malawi
Anticipatory Action Interventions	Deliver Cash in Anticipation	Bangladesh
	Pilot an AA Plan in Social Protection	Peru

Some activities require additional explanation, particularly WFP global preparedness initiatives:

- The *Self-Registration Application* is a digital platform that enables beneficiaries to register themselves, replacing traditional in-

person registration processes. This system streamlines data collection and management, ensuring more efficient handling of beneficiary information across multiple contexts.

- The *Global Commodity Management Facility* is a mechanism designed to manage the procurement and pre-positioning of food commodities at global and regional levels. It integrates market observation, supply analysis, and demand forecasting to support timely and coordinated purchasing decisions.
- Global response teams provide rapid deployment of specialized staff to emergency contexts, covering a wide range of functional areas within the organization. For this study, the focus is on nutrition surge staff, who are mobilized to strengthen emergency response capacity in crisis countries.

## Methodology

This ROI calculation methodology builds on established frameworks developed by UNICEF and WFP (2015), OCHA, UNHCR, UNICEF and WFP (2017), as well as ETC (2024). It has been adapted to reflect WFP’s broad operational scope and diverse preparedness activities. The methodology is designed to capture a wide range of impacts resulting from preparedness measures – country and global activities - and to account for shocks from multi-hazard scenarios. The goal is to provide a practical approach that can be applied by both Country Offices, Global Headquarters and partners.

Preparedness investments generate multiple types of benefits. Given the diversity of interventions, we assess impacts across several

dimensions: cost savings, time savings, human well-being, economic impact and social impacts.

Because these impacts differ in how they can be measured, it is more straightforward to collect quantitative data for some dimensions than for others. We therefore gathered quantitative data for cost and time savings.

For human well-being, economic, and social impacts—where WFP’s preparedness efforts also deliver significant benefits, but where counterfactual data is limited, and no common metric exists—we collected qualitative data instead. This mixed-method approach is consistent with that used by the ETC, although their impact dimensions were slightly different.



**Cost savings:** Lower emergency logistics and procurement costs, reduced losses, and avoidance of costly last-minute operations.



**Time savings:** Faster delivery of assistance.



**Human well-being:** Reduced disaster impacts on food security, health, and mortality.



**Economic impacts:** Limited livelihood disruptions, market instability, and infrastructure damage.



**Social impacts:** Preservation of social cohesion, reduced risks such as unrest and displacement, and protection of marginalized groups.

# Quantitative analysis

The methodology incorporates the country risk profile, defined by the mean annual occurrence rate of severe disasters, as a key parameter for calculating the financial ROI. In addition, the approach outlines the process for estimating time savings, which represent a critical dimension of preparedness benefits.

## COUNTRY RISK PROFILE

The risk profile methodology provides a standardized way to estimate the mean annual occurrence rate of severe disasters —i.e., the average number of severe disasters per year— in each country, a key input for calculating the expected benefits of preparedness investments. It ensures comparability across different contexts and focuses on disasters that significantly affect food security and typically require WFP intervention. The model accommodates a broad spectrum of hazards relevant to WFP operations, including cyclones, droughts, earthquakes, epidemics, floods, landslides, storms, tsunamis, and volcanic eruptions.

At its core, the methodology uses historical disaster data to understand how often severe events occur. However, severity is not defined solely by the number of affected people by a disaster. Instead, it considers the country's vulnerability—measured by the prevalence of acute food insecurity—because the same hazard can have very different consequences depending on coping capacity of a country. In highly vulnerable countries, even moderate shocks can overwhelm systems and trigger the need for WFP support, while in less vulnerable contexts, only larger events would have the same effect.

To capture this, the methodology sets thresholds for what qualifies as a severe disaster based on vulnerability. Countries with high levels of food insecurity have lower thresholds, meaning smaller disasters count as severe, whereas

countries with lower vulnerability require larger shocks to meet the threshold (see the Annex A.4. for more details).

The EM-DAT (Emergency Events Database) is a global database maintained by the Centre for Research on the Epidemiology of Disasters (CRED), which systematically records and classifies disaster events worldwide (EM-DAT, 2025). The thresholds are then applied to historical disaster records from EM-DAT of the last 25 years – this time period has been selected since the EM-DAT data is of better quality since 2000, adjusted for population at the time of each event, to identify which past events qualify as severe. Only hazards that have historically triggered severe impacts in a country are included in the analysis.

Finally, the frequency of these severe disasters over the past 25 years is used to estimate the annual rate of such events. This provides a transparent and comparable measure that feeds into the ROI calculations for preparedness activities.

This approach builds on earlier WFP and ETC studies but introduces important refinements. It considers a broad range of hazards and uses affected populations as a key metric. However, it differs by explicitly adjusting severity thresholds for vulnerability, ensuring that the analysis reflects coping capacity and food security impact rather than hazard intensity alone. This makes the methodology more aligned with WFP's operational priorities and the realities of disaster response.

## COST SAVINGS

To estimate the return on investment (ROI) of a preparedness activity, we focus on the monetary benefits it generates—primarily cost savings during emergency response.

The methodology is standardized and scaled down to the basic cost categories needed. Calculating ROI requires four types of cost data:

- **Initial Investment** – All costs to set up the activity (e.g., staffing, equipment, infrastructure).
- **Variable Costs** – Recurring annual expenses to maintain the investment (e.g., maintenance, training).
- **Actual Emergency Cost** – Response costs incurred during an emergency where the preparedness investment was done.
- **Counterfactual Emergency Cost** – Estimated cost of responding without the preparedness investment (based on past methods or similar emergencies).
- Benefits of severe disaster – Estimated savings compared to a counterfactual scenario for an average severe disaster.
- Rate of severe disaster – Mean annual rate of severe disasters derived from the country risk profile.
- Depletion rate – Accounts for reduced effectiveness over time.
- T (timeline) – Reference period for investments and benefits.
- r (discount rate) – Adjusts future values to present terms.

The benefits of the preparedness activity are calculated as the difference between the counterfactual emergency cost and the actual emergency cost. To reflect the size of an average severe disaster in the country, these benefits are then adjusted using the number of affected people in the two cases (i.e., actual emergency and average severe disaster), ensuring comparability across cases.

ROI Formula

$$ROI = \frac{\sum_{t=0}^T \frac{\text{Benefits of severe disaster}_t \times \text{Rate of severe disaster} \times (\text{Depletion rate})^t}{(1+r)^t}}{\sum_{t=0}^T \frac{\text{Investments (initial and variable)}_t}{(1+r)^t}}$$

## Qualitative component

This methodology is designed to capture qualitative benefits of emergency preparedness activities.

It provides a structured framework to assess impacts across three domains:

- **Human well-being (H):** How preparedness reduces disaster impacts on people—such as food insecurity, malnutrition, illness, injuries, and mortality.
- **Economic impacts (E):** How preparedness mitigates disruptions to livelihoods, markets, essential services, and infrastructure, while also capturing monetary savings not fully reflected in quantitative ROI.
- **Social impacts (S):** How preparedness helps maintain social cohesion, reduces

## TIME SAVINGS

Time savings are also estimated for each activity and expressed as the reduction in response time (e.g., number of days gained). Time savings help reduce suffering and save lives. While not directly monetized in the ROI formula, time savings are a critical dimension for humanitarian impact and are presented alongside cost savings to provide a comprehensive picture of value.

We calculate time saving per emergency of investments as:

Time saving = Response time with investment - Response time without investment

risks of tension, crime, violence, unrest, and conflict, and mitigates forced migration or discrimination against vulnerable groups.

The approach combines narrative insights—through structured questions and quotes—with a scoring system that enables comparison across activities and investment categories. A set of structured questions has been developed for each of the seven investment categories.

The scoring uses a standardized three-point scale—1 = low impact, 2 = medium impact, 3 = strong impact—applied across the three domains (human well-being, economic, social) to enable comparison across activities. To ensure consistency and avoid double counting, scoring applies accepted thresholds adjusted for context and vulnerability, and excludes evidence already used in the quantitative analysis or domains where impacts are neutral/negative.

## Analysis of Global Case Studies

An important innovation in this study is the inclusion of global preparedness activities, which broadens the traditional scope of analysis. Rather than focusing exclusively on country-level actions aimed at specific emergencies, this approach considers investments made at headquarters and regional offices that can be leveraged during crises. These global investments—such as in forecasting systems, data platforms, and

operational tools—were not accounted for in previous ROI studies, yet they play a critical role in strengthening emergency response.

To capture these cases, the standard ROI methodology was slightly adapted. The revised formula (see below) incorporates global-level inputs while maintaining consistency with the overall analytical framework.



WFP/Lena von Zabern

$$ROI = \frac{NPV \text{ Benefit Country 1} + NPV \text{ Benefit Country 2} + \dots}{NPV \text{ of total Investments (Global and Country)}}$$

The numerator in the general formula represents the Net Present Value (NPV) of benefits. This component comprises the estimated benefits, discounted to present value at the selected discount rate. These values are aggregated across countries where the activity was implemented and that are included in the case study. The denominator reflects the NPV of investments, incorporating both the global investment cost and the additional cost required to adapt the investment to the country level.

Time savings were calculated as the mean

across multiple country datasets, ensuring comparability. For qualitative aspects, the analysis remains aligned with the original approach, using aggregated insights from country case studies.

The inclusion of global preparedness activities introduces significant benefits. Most important among these is the potential for economies of scale, which enable larger, more strategic investments in high-quality systems and forecasting capabilities. These investments not only improve operational efficiency but also enhance the resilience and responsiveness of the organization as a whole.

## Aggregation

Previous studies have typically calculated an overall ROI using simple averages (mean or median). This approach can be improved using weights since preparedness investments vary significantly in scale across categories.

To address this, we apply a weighted aggregation method. The process begins by calculating the mean ROI within each investment category when multiple investments exist. These category-level means are then combined using weights that reflect the relative importance of each category.



The weights are derived from the total amount invested in each category using IRA preparedness funding between 2015 and 2024. For this dataset, detailed activity-level information is available for each allocation. When multiple activities are reported for a single amount, we assume that the funds are distributed equally across those activities.

After this adjustment, the activities are mapped to their respective investment categories, and the investment aggregated by category. Because investment amounts are heterogeneous, we applied a square root transformation to smooth extreme differences before converting them into proportional weights.

IRA preparedness data does not include funding for investments in Anticipatory Action plans and systems; nevertheless, this report treats selected AA interventions as preparedness investments where they clearly serve preparedness functions. Globally, WFP's Anticipatory Action portfolio totals approximately US\$100 million, including US\$72.6 million in pre-arranged financing for forecast-based activations and US\$27 million

rapidly disbursed for activations, reaching 1.3 million people (WFP, 2025a). To calculate the weight of AA, we compare these expenditures to the total spending on cash and commodity vouchers for crisis response in 2024, which amounted to USD 1.7 billion (WFP, 2025b).

There are two sets of weights. This is because there are no findings for Staff and Learning in the financial and social dimension on the country level; therefore, for this set of weights, the funding invested in these activities is excluded from the calculation. For time saving as well as the economic and social impacts, weights for all investment categories were calculated. The sets of weights are presented in the Annex A.1.

In total, global preparedness investments are expectedly smaller than aggregated country-level investments. To account for this, we apply reduced weights for global cases. As a proxy, we use the Indirect Support Cost (ISC) rate of 6.5%, which WFP applies to contributions to cover Programme Support and Administrative costs, including headquarters expenses.

## Methodological Adaptations

This study builds on previous methodologies, with the 2015 and 2017 models and the ETC approach serving as important reference points. Major lessons from the first attempt to quantify ROI for emergency preparedness showed the need to also account for external investments and include qualitative benefits for a more comprehensive picture. Reviewing the 2017 study showed the need to capture returns from strengthening government capacity and to simplify the tool for broader usability. While the ETC model provided a solid foundation, its focus on a single sector required adaptations to address the broader and more complex nature of WFP's preparedness work.

Building on these lessons, this study adopts a revised methodology guided by four principles.

First, the methodology is flexible and context-sensitive, designed to accommodate WFP's diverse activities and adaptable across different operational settings—an approach that ensures results reflect real-world conditions and provide a more realistic assessment of impact.

Flexibility is reflected in several areas, including activity-specific timelines and tailored depletion rates. These adjustments allow the methodology to better represent the realities of different preparedness activities rather than applying uniform assumptions. For example, investment periods are also no longer fixed. Instead, they are tailored to the characteristics of each activity, providing a more accurate representation of expected returns.

Another key improvement is the development of context-driven counterfactuals. Rather than applying a fixed measurement approach, counterfactuals were determined through expert judgment in each case study, ensuring that comparisons are realistic and grounded in operational realities.

The scope of analysis has also been expanded. The revised approach includes methods for assessing global preparedness projects, strategies for capturing country capacity strengthening, and a framework for evaluating Anticipatory Action (AA) investments. These additions ensure that the methodology reflects the full spectrum of preparedness interventions.

Second, it emphasizes standardization and clear guidance, providing a consistent framework that enables meaningful comparisons and actionable insights.

The methodology specifies uniform data-collection protocols and sets out harmonized procedures for quantitative and

qualitative analysis, including clearly defined cost components and standardized scoring, so that results are comparable and decision-ready. It also applies a standardized Country Risk Profile methodology to ensure consistency across contexts and over time.

Third, it seeks to capture comprehensive impacts by combining quantitative measures—such as cost and time savings—with qualitative dimensions related to human well-being, economic impacts, and social effects.

Finally, it is practical and user-friendly, drawing on the ETC example for simplicity and accessibility while introducing additional components to strengthen applicability.

Dedicated Data-Entry tools were developed for ROI analysis, with separate files for each investment category to streamline data collection and automate ROI calculations. These tools integrate quantitative, qualitative, and risk data, and include a ranking mechanism for qualitative findings, ensuring a standardized and efficient methodology.



WFP/Arete/Riyal Riffai

# Caveats

While this study employs a rigorous methodology, several limitations warrant consideration when interpreting the findings.

The number of case studies analyzed is relatively small (19 investments compared to 49 in 2015 and 35 in 2017), reflecting limited tracking of cross-functional preparedness investments, resource constraints and the limited timeframe of the project rather than any lack of relevance or quality. These cases do not fully reflect the scale and complexity of WFP's preparedness work, and results should be interpreted with this in mind.

As in previous preparedness studies, activities were not randomly selected; selection was influenced by multiple factors, including data availability, technical feasibility, and qualitative criteria such as operational significance. The small sample size and context-specific nature of the cases constrain the ability to generalize findings across all country contexts, as external factors may have influenced outcomes in the model. This also applies to differences in each context's preparedness capacity—the ability of systems to absorb, retain, and sustain established investments—which is essential for effective and lasting capacity strengthening. These considerations also apply to earlier studies in this area.

To enhance representativeness over time, a user-friendly ROI calculation tool has been developed to support ongoing data collection and build a more comprehensive database of future analyses.

Nevertheless, the more flexible use of key variables—leading to activity-specific timelines, and tailored depletion rates—ensures that the

methodology reflects the realities of diverse preparedness activities more accurately than previous studies.

One important limitation of our analysis is the exclusion of conflict and violence from the risk profiles. Ignoring conflict affects the risk assessment, as including it would likely increase the expected benefits of preparedness investments. This omission also means that contexts affected by compound hazards—where natural disasters coincide with conflict—are not fully captured. As a result, the estimated returns are conservative, since the frequency and severity of shocks in such settings would increase the value of preparedness investments beyond what is reflected in our calculations. To advance this methodology, conflict and violent occurrences can be incorporated in future iterations.

Certain caveats from earlier methodologies remain relevant. The rate of severe disasters is assumed to remain constant over the investment period, despite expectations of increased frequency due to climate change. Future analyses could address this by applying a time-varying weighting scheme that assigns greater weight to recent events, thereby capturing climate-related trends and leveraging the higher accuracy of recent data. In addition, disaster events are treated as independent, although in reality one event may reduce coping capacity and amplify the impact of subsequent shocks.

Despite these limitations, the findings remain highly relevant for their intended purpose: informing strategic decisions, guiding investment priorities, and strengthening the evidence base for preparedness.

# Results

The analysis shows that the set of preparedness activities examined in this study delivers a financial ROI of 3.4. Across every case study where cost savings were quantified, returns outweighed the investment. In addition, these investments enable WFP to reduce average emergency lead times by 25 days.

Complementing these quantitative findings, the qualitative review underscores broader benefits. Across all investment categories, scores indicate stronger gains in human well-being (2.3) compared to economic (2.2) and social (1.9) dimensions.

Preparedness consistently enhances food security and nutrition, while also helping to maintain livelihoods, stabilize markets, build trust, reduce displacement, improve gender dynamics, and strengthen community resilience.

In this section, we summarize the results of two types of investments: preparedness at the country level and global investments. Further details on the dimensions analyzed for each case study, and a more granular breakdown of results are provided in Annex A.2.

## Country-level Preparedness investments

For country level investments, the results are presented aggregated on the investment category level. The different investments show diverse impacts.

while improving safe access for women and children and enhancing mobility for persons with disabilities, enabling more inclusive access to services.



### INFRASTRUCTURE

This category includes the returns from Humanitarian Staging Areas (HSAs) in Malawi and Nepal and the restoration of a key road in South Sudan. Cost savings in this group show an average ROI of 2.0. Time savings are also significant, reducing emergency response by 14 days.

Infrastructure investments are associated with pronounced qualitative impacts in human well-being (2.3) and economic outcomes (2.3). The HSAs supported access to hard-to-reach areas where commercial trucks cannot operate. Additionally, the road restoration improved access for traders and boosted the availability of goods, supporting local commerce and sustaining livelihoods. In the social dimension (2.1), the road construction has fostered trust and peacebuilding between communities



### PRE-POSITIONING

This category covers returns from pre-positioning food at local level in Malawi and Cuba, delivering a financial ROI of 1.3. The case study demonstrates clear cost-efficiency: transporting commodities before a disaster is significantly cheaper than during an emergency, when costs surge. Beyond financial gains, pre-positioning generates substantial operational benefits, reducing response time by 65 days per emergency—a critical advantage in crisis contexts.

Downstream pre-positioning also scored strongly in the human well-being domain (2.3). By ensuring timely food distributions, local stockpiling helped stabilize food security and prevented vulnerable districts from deteriorating into crisis levels. On the social dimension (2.0), shorter waiting times and the

avoidance of perceived neglect reinforced trust between communities, WFP, and local authorities, strengthening social cohesion and confidence in humanitarian response.



## STAFF AND LEARNING

For this category, cost savings were not calculated due to the time efficiency as the primary goal of staffing and learning investments. We analyzed activities such as design and delivery of emergency simulations (SimEx) and maintaining short-term staff availability for emergency response in Malawi. These investments produce considerable time savings, averaging 14 days.

The qualitative analysis highlights significant gains in both human well-being (2.0) and economic performance (2.0). The SimEx proved instrumental in optimizing resource allocation and ensuring better coordination between health and food assistance, thereby reducing the risk of service gaps in disaster-affected areas. Furthermore, the introduction of rosters markedly enhanced cost-efficiency and operational readiness—cutting reliance on costly TDY deployments and enabling rapid staff mobilization when emergencies strike.



## DATA AND SYSTEMS

We examined two preparedness activities: (1) rolling out a Famine Early Warning System in Afghanistan, a near real-time, data-driven platform that detects early signs of food security deterioration and triggers assistance in hotspot areas; and (2) rolling out an Early Warning System as part of an Anticipatory Action approach in Malawi that enabled WFP to preposition food and fuel, generating operational benefits for WFP's response.

We calculated both cost and time savings, with a notably high financial ROI of 3.7. This reflects the high-quality data systems WFP develops to forecast emergencies. These technological advances generate strong returns and enable timely decision-making. Time savings average 14 days.

Data and Systems attained a human well-being score of 2.7, indicating a high impact in this domain. The Famine Early Warning System protected livelihoods by stabilizing households before they resorted to distress coping, helping them avoid selling assets. Economically (2.3), it helped preserve purchasing power and stabilize local markets during shocks, mitigating livelihood erosion and reinforcing resilience.



## TECHNICAL ASSISTANCE TO GOVERNMENT

We analyzed WFP technical assistance to government, supporting the development and implementation of systems important for sustaining a national- or local-led emergency response: a Mechanic Packing System (MPS) for family food packages in the Philippines, and a Commodity Tracking System in Malawi. We find a financial ROI of 2.3 and time savings of 5 days per emergency.

Technical Assistance to Government investments delivered substantial qualitative benefits, with notably high scores in economic (2.5) and social (2.3) dimensions. Economically, the MPS supported local livelihoods by sourcing rice domestically, stabilizing prices, and protecting smallholder farmers' incomes—while avoiding large-scale imports that could undermine local markets. Socially, the MPS strengthened trust and collaboration between WFP

and the Government of the Philippines, reinforcing confidence in WFP's role in national disaster preparedness and response.



## ANTICIPATORY ACTION INTERVENTIONS

Investments in this category include anticipatory cash distributions in Bangladesh and the pilot of an AA plan in Peru. The financial ROI of the case study totals 3.5. Time savings are equally significant, averaging 59 days per emergency.

Qualitative impacts of anticipatory cash transfers are substantial and long-lasting. Human well-being benefits are strong (2.6), with improved food security, sustained consumption, and fewer negative coping strategies. These measures safeguarded health and nutrition and prevented asset sales, reinforcing resilience. Economically (2.3), early cash injections supported local markets, enabled home repairs, and financed agricultural inputs—helping households protect livelihoods and avoid severe losses.

# Global preparedness investments

This study analyses six global preparedness investments: Establish a Self-Registration Application (SRA), Establish Rapid Start Emergency Training, Maintaining a Surge for Nutrition, Pre-positioning Food at Regional/Global Level through the Global Commodity Management Facility (GCMF), Use Nutrition Data for Operations, and Pre-positioning Specialized Nutritious Foods at Regional and Global Levels. Given data availability and the nature of each investment, not all impact dimensions were assessed for every case (see Annex A.1 for the dimensions covered by investment).

SRA introduces a digital approach to beneficiary registration, replacing traditional in-person processes. Over recent years, this system has been deployed across multiple countries, though it may not fully replace traditional methods everywhere due to contextual constraints like the mobile network penetration.

WFP invested approximately USD 850,000 in developing SRA at the global level. Only a fraction of this amount is required to adapt the system to individual country contexts. For this analysis, we consider eight countries—although SRA has been rolled out in twelve countries—because some countries have not yet activated the system.

Across these eight countries, more than 14 million beneficiaries have been registered. On average, cost savings per household amount to USD 11.5, resulting in a financial ROI of 19. This exceptionally high ROI reflects both the efficiency of the investment and significant economies of scale. By centralizing development and maintenance while enabling widespread use, SRA standardizes registration and data management, reduces duplication, and enhances operational consistency. Furthermore, the system accelerates deployment compared to traditional face-to-face registration, saving an average of 19 days per emergency.

The SRA investment achieved high scores across all qualitative domains. Its social impacts are notable: the self-registration application fostered inclusion and trust by enabling dignified participation and offering secure options for those without devices. It also reduced stress through clear communication—reflected in 98% beneficiary satisfaction—and improved gender dynamics and strengthened community resilience.

Rapid Start is WFP's foundational emergency training, developed in 2022, that equips newcomers and surge staff with core emergency concepts, coordination roles, data/targeting

basics, and scenario-based practice; to date, 400+ staff from around 50 Country Offices have been trained. By strengthening workforce preparedness and surge readiness across COs, it reduces response inefficiencies during emergencies. The programme delivers an estimated ROI of 10—every US\$1 invested avoids about US\$10 in response costs.

GCMF is a centralized system for managing food procurement and pre-positioning at global and regional levels. Its effectiveness lies in coordinated global operations that integrate market monitoring, price analysis, and demand forecasting. As one of WFP's core preparedness activities, this approach enables strategic purchasing and positioning decisions across multiple countries, leveraging scale to optimize supply chains and ensure timely commodity availability. The benefits are substantial: on average, commodities are available one hundred days earlier than under traditional response models, based on deliveries to 38 countries.

Pre-positioning Specialized Nutritious Foods (SNF) at regional and global levels delivers substantial qualitative benefits. The

intervention achieved a high score in the human well-being domain (3.0), underscoring its critical role in reducing lead times and enabling timely nutrition responses. This measure helped prevent children from becoming moderately malnourished or deteriorating to severe acute malnutrition. In the social domain (2.0), by facilitating treatment closer to home, pre-positioning also contributed to reducing the risk of population displacement.

Maintaining global response teams is a preparedness activity that ensures rapid deployment of specialized staff during emergencies. This model leverages economies of scale by pooling expertise across the organization to meet diverse needs in multiple crises. By maintaining a global roster of trained personnel, the surge system guarantees flexibility and speed in mobilizing critical functions.

For this study, we focus on nutrition surge staff, though the mechanism spans all operational areas. Data from emergencies in seven countries show that deployment time savings average 43 days per emergency.



WFP/Nelson Pacheco

Use Nutrition Data for Operations delivered substantial qualitative impacts across multiple domains. In the human well-being domain (3.0), timely decisions on repositioning and scaling up interventions prevented children from deteriorating from moderate to severe acute malnutrition in South Sudan. In Gaza and Myanmar, integrating nutrition indicators into

mVAM strengthened IPC analysis and advocacy for humanitarian access. Economically (2.0), this approach reduced data collection costs compared to standalone SMART surveys. Socially (2.0), it enabled transparent, needs-based targeting of marginalized groups, ensuring support reached the most nutritionally vulnerable populations.

## Conclusions

This study reaffirms that WFP preparedness investments consistently deliver a positive return on investment.

Overall, the analysed preparedness activities yielded an average ROI of 3.4. Compared to previous analyses of WFP's overall preparedness portfolio, the estimated financial ROI has risen by \$0.80 for every dollar invested. Also striking are the operational gains: WFP can now respond 25 days faster to emergencies—11 days quicker than the 14-day improvement reported in the earlier study—underscoring the growing efficiency and impact of preparedness investments.

Improvements in preparedness stem from the cumulative effect of multiple measures implemented across operational levels and thematic areas. Clear progress in logistics, human resources, early warning, and anticipatory action has strengthened WFP's overall readiness. These gains are further reinforced by a set of high-impact investments, including innovative pre-positioning tools and advanced systems. Overall, the findings are consistent with the conclusions of the evaluation of WFP's Emergency Preparedness Policy, confirming that sustained, multi-layered investments generate meaningful improvements in preparedness (WFP, 2024).

For preparedness investments on the country-level, Data and Systems deliver the highest financial returns. Digital solutions stand out as particularly impactful: they enable better

data use, improve forecasting quality, and drive operational efficiency. Early Warning Systems, in particular, show high returns, reinforcing the value of technology-driven preparedness. These early warning systems, together with other innovations, are essential to Anticipatory Action, which delivers strong cost savings and large lead time reductions on the country level. A key component of these time savings is the linking of finance to predictive triggers, which allows WFP to access funding in minutes rather than months—an approach that can be lifesaving for communities facing imminent crises.

Global preparedness investments also provide significant advantages in both time and cost savings. With operations in around eighty country offices, WFP can leverage economies of scale by deploying systems that work across diverse contexts. Large-scale initiatives such as the Global Commodity Management Facility, the Rapid Start emergency training and the Self-Registration Application illustrate this approach: while requiring considerable upfront investment, they deliver outsized benefits for an organization where speed and reliability are critical.

The impact of preparedness extends well beyond cost and time savings. The analysed preparedness activities also deliver substantial qualitative benefits that strengthen humanitarian response. Food and nutrition assistance during emergencies prevented children from falling into moderate or severe acute malnutrition and

enabled life-saving responses. In the economic domain, investments preserved purchasing power, stabilized local markets, and protected smallholder incomes—while boosting trade and sustaining livelihoods—thereby mitigating economic shocks and reinforcing community resilience. Socially, WFP’s diverse measures fostered trust and peacebuilding, improved gender dynamics, ensured inclusive access for marginalized groups, strengthened collaboration with governments, and enhanced community cohesion and confidence in humanitarian response.

This report underscores the breadth of WFP’s preparedness work, with more than sixty distinct activities mapped across country-level and global initiatives, including innovations only recently made possible. This diversity is fundamental: preparedness gains do not come from isolated investments but from a systemic approach that integrates multiple areas of work. Each category contributes uniquely to WFP’s ability to respond,

and together they create a cumulative impact. Without this wide-ranging portfolio—spanning operational systems, strategic innovations, and institutional capacity—WFP would not have achieved the significant improvements in response time observed over recent years.

The case studies from Malawi illustrate how this systemic approach works in practice. Complementary investments—such as early warning systems, warehouse capacity, and HSAs—formed an integrated preparedness architecture that delivered strong financial and operational benefits. Similarly, support to the government extended beyond a commodity tracking system to include training and FDP mapping, providing the knowledge and operational depth needed to amplify impact and ROI. These examples confirm a critical insight: preparedness is most effective when investments are interconnected, creating systems that multiply returns rather than isolated gains.

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# Acronyms

<b>AA</b>	Anticipatory Action
<b>CBT</b>	Cash-Based Transfer
<b>CO</b>	Country Office
<b>CTS</b>	Commodity Tracking System
<b>DCCMS</b>	Department of Climate Change and Meteorological Services
<b>DEPP</b>	Disasters and Emergencies Preparedness Programme
<b>DoDMA</b>	Department of Disaster Management Affairs
<b>DRM</b>	Disaster Risk Management
<b>EM-DAT</b>	Emergency Events Database
<b>ETC</b>	Emergency Telecommunications Cluster
<b>FFP</b>	Family Food Pack
<b>GCMF</b>	Global Commodity Management Facility
<b>HSA</b>	Humanitarian Staging Area
<b>IPC</b>	Integrated Phase Classification
<b>IRA</b>	Immediate Response Account
<b>ISC</b>	Indirect Support Cost
<b>MIDIS</b>	Ministry of Development and Social Inclusion (Peru)
<b>MPS</b>	Mechanised Packing System
<b>mVAM</b>	mobile Vulnerability Analysis and Mapping
<b>NiE</b>	Nutrition in Emergencies
<b>NROC</b>	National Resource Operations Center (Philippines)
<b>OCHA</b>	United Nations Office for the Coordination of Humanitarian Affairs
<b>ROI</b>	Return on Investment
<b>SimEx</b>	Simulation Exercise
<b>SNF</b>	Specialized Nutritious Foods
<b>SRA</b>	Self-Registration Application
<b>TDY</b>	Temporary Duty
<b>UNHCR</b>	United Nations High Commissioner for Refugees
<b>UNICEF</b>	United Nations Children's Fund
<b>VAM</b>	Vulnerability Analysis and Mapping
<b>VDRC</b>	Visayas Disaster Response Center (Philippines)
<b>WFP</b>	World Food Programme

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