

**PAN-AMERICAN HEALTH ORGANIZATION'S  
HUMANITARIAN SUPPLY MANAGEMENT SYSTEM:  
DE-POLITICIZATION OF THE HUMANITARIAN SUPPLY CHAIN  
BY CREATING ACCOUNTABILITY**

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**ABSTRACT.** The Pan American Health Organization (PAHO) has developed a humanitarian supply management system (SUMA) that records, tracks and reports the flow of donations and purchased goods into a disaster area. While a lot of the received goods are in-kind donations, there is a procurement process triggered by the cash funds to meet specific needs. This procurement process also needs to comply with the humanitarian principles, and is therefore susceptible to manipulations from different stakeholders. SUMA has contributed to all the different deployments with the ability to build transparency and accountability in complex operations. These two contributions help to isolate the political factors from the supply chain and protect the humanitarian principles and space.

**INTRODUCTION**

Procurement in humanitarian operations faces different challenges than those experienced in the private sector. The nature of most disasters demand that a supply chain be designed and deployed immediately with limited knowledge of resources available, needs in the field, quantities required, and a large amount of suppliers (whose involvement and contribution is somewhat unpredictable).

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Managing a large and complex operation requires a systematic approach that can register, track and report the activities of the many stakeholders involved. By doing so, there can be a level of accountability among stakeholders that diminishes duplication of efforts, maximizes the use of resources, and fosters good donor relations. This paper explains how some levels of accountability were reached during the response to the 2001 earthquakes in El Salvador.

SUMA, the Pan-American Health's Organization's (PAHO) Humanitarian Supply Management System, has proven successful in assisting in the management of humanitarian operations by creating accountability through their internal processes. Aside from the making the operations more efficient, SUMA has been valuable at defending the humanitarian principles and depoliticizing the activities, as the example of El Salvador illustrates.

### **METHODS**

This paper is based on a review of the relevant literature on humanitarianism and operations, a series of interviews, and interaction with practitioners in the field. It covers the relief operations of the El Salvador earthquakes as well as literature on complex disasters, social vulnerability, and information systems. Sources are varied and include newspaper articles, academic articles, training material, organizational reports, operations bulletins, government documents, external evaluations and recommendations, related organization's charters and relevant legislature, resolutions and agreements.

Additional data was gathered from three full days of interviews with personnel involved in the operations and management of SUMA at different levels of the organization and private sector (from headquarter to field deployment team members and secondary support staff). These interviews covered questions about management procedures, the relationship with different stakeholders, and areas of contribution and improvement.

### **RESULTS**

PAHO's supply management system (SUMA) clearly helped to build transparency and accountability into the humanitarian supply chain. In

El Salvador, SUMA clarified the operational responsibility of those involved, and isolated the elements that could politicize the outcome.

Among its numerous contributions, SUMA introduces basic category management to increase standardization; supports media and donor relations with periodic reports; and supports inventory management and forecasting to match goods needed and available. In general SUMA contributes to more effective procurement, handling, storage and distribution of the numerous and diverse goods that arrive during a disaster relief operation.

## DISCUSSION

### **SUMA: Humanitarian Supply Management System<sup>1</sup>**

SUMA began in 1992 as a technical cooperation project in Latin America and the Caribbean to manage the medicines donated to a disaster area. The concept was later enlarged to encompass a greater category of goods and manage all the donations (medicine, food, non-food items). As the project gained support, parts of the software were designed with extensive input from practitioners, governments, and emergency management specialists. The end result was a user friendly, easy to install, and adaptable program that could be deployed with minimal requirements to track and report all goods (from all parties) coming into a disaster area.

SUMA is currently managed and deployed by FUNDESUMA<sup>2</sup> [Spell it out] and sponsored by PAHO. Both parties have an operational and funding agreement with the aim of building and strengthening the capacity of countries to deal effectively with information on incoming relief supplies. This implies not only assisting in emergencies, but also, in training local teams to be prepared and independent in the event of an emergency.

Considered both a software and a methodology, SUMA registers and tracks donations of humanitarian relief supplies from the pledges made by donors, to their entry into the disaster area, through their storage and distribution. SUMA is divided into three functional units: field, warehouse, and central (see Table 1). These run on the same software, exchanging information over the Internet whenever possible or via electronic files as the goods move through the supply chain.

The software's data collection and processing capabilities enable it to produce reports and keep humanitarian organizations, as well as donors, the media and beneficiaries informed of activities in the supply chain. At collection centers, the goods are registered in the database (broken down into category, subcategory, and item) and sent to the destination. Upon arrival at the warehouse, the goods are prioritized depending on the needs of the population. Then they are quickly distributed to their final

**TABLE 1**  
**SUMA Units Description**

<b>SUMA Central</b> (COEN Offices, Feria Internacional in San Salvador)	Considered the headquarters for each operation. Enables internal management, control and coordination with other institutions and organizations that may be working on the emergency, such as the Red Cross and church groups.	<ul style="list-style-type: none"> <li>- Defines parameters to be used by the Field Units: reception sites, shipment directories, and main user identities.</li> <li>- Creates Field Units.</li> <li>- Consolidates, processes and reports information from the Field Units, warehouse and donors.</li> <li>- Maintains the system's database.</li> </ul>
<b>SUMA Field Units</b> (Comalapa International Airport)	Designed to operate at points of entry or reception sites, such as borders, water or river ports, and large storage centers. The SUMA Field Unit uses manual registration forms in case of computer breakdown, or in the event that its use is required for gathering data.	<ul style="list-style-type: none"> <li>- Sort and identify supplies using priority labels for urgency and special needs</li> <li>- Classify supplies by categories, subcategories and items.</li> <li>- Selective checks on items.</li> <li>- Issue delivery receipts.</li> <li>- Consolidate data to be sent to the CENTRAL Level.</li> </ul>
<b>Warehouse Management</b> (Various locations in San Salvador including airport)	Registers the arrival and the delivery of supplies at the storage centers or warehouses. Receives information coming from the Field Units and/or the Central Level.	<ul style="list-style-type: none"> <li>- Track local inventory.</li> <li>- Elaborate stock reports and deliveries.</li> <li>- Inventory follow-up of other subordinate warehouses.</li> </ul>

Source: Tomasini and Van Wassenhove (2003)

recipients. This process is also registered in the information system and integrated into the reports. At the warehouse, SUMA serves as an inventory management tool connected to peripheral units for collection and distribution.

Information gathered throughout the process is forwarded in electronic format to the central unit, where the emergency is being managed. There it is consolidated. Standard or customized reports can be easily generated for disaster managers, helping them to monitor pledges from donors, identify gaps or duplications in distribution, as well as to make logistical decisions (Figure 1).

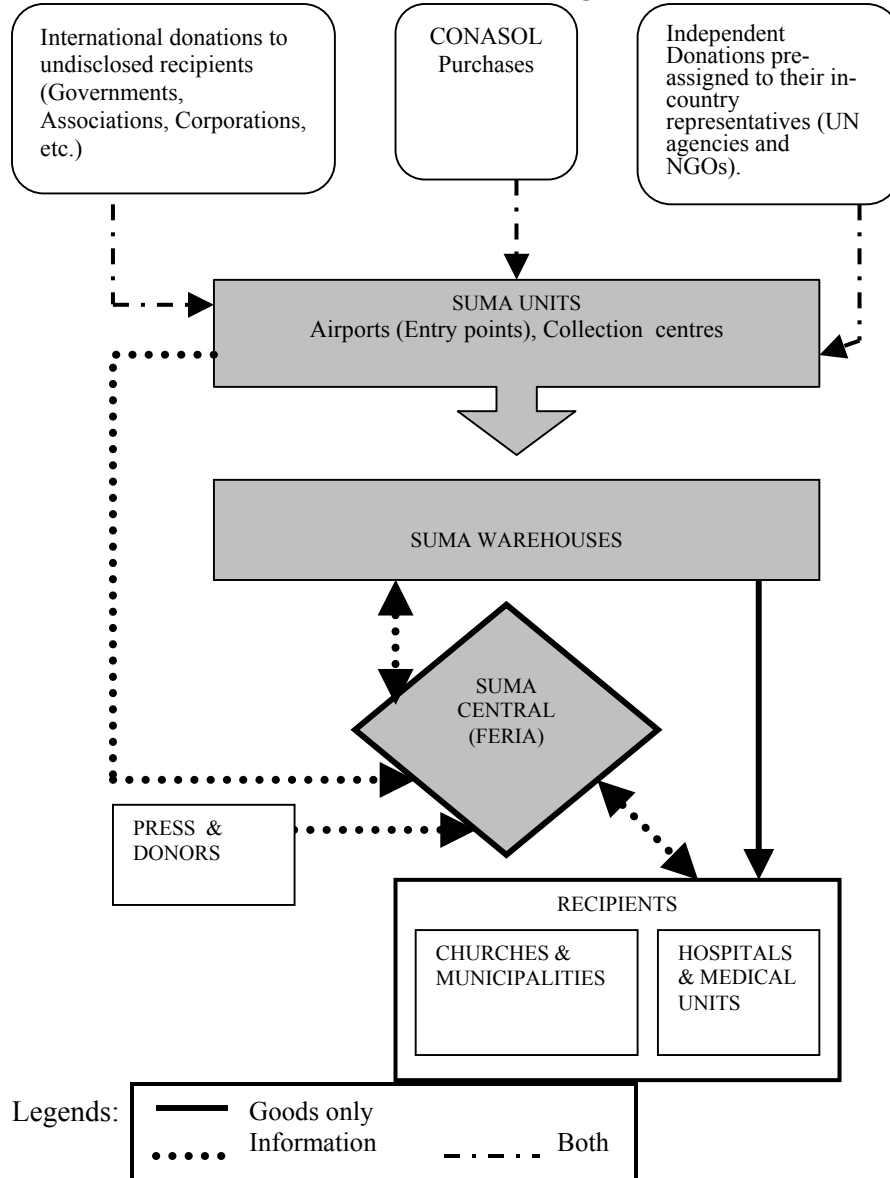
### **Responding to Earthquakes in El Salvador**

On January 13, 2001, the first of two devastating earthquakes took place in El Salvador with a magnitude of 7.6 on the Richter scale. Exactly one month, and at least two thousand aftershocks later, a second earthquake of 6.6 on the Richter scale was felt. Combined, the earthquakes caused the deaths of over a thousand people and injured at least eight thousand people. They also left over one million people homeless (about a sixth of the population) in a country with the highest population density in the world (300/km<sup>2</sup>) (Tomasini & Van Wassenhove, 2003 ), and an estimated U.S.\$1.6 billion in economic losses.

Due to its position, El Salvador is a disaster-prone region and thus SUMA was not a foreign concept to the country. The system was used from day one, and achieved full operational capacity within two days. The national emergency response authorities (COEN) and other NGO's public sector stakeholders had been trained previously as part of PAHO's Disaster Reduction and Prevention Program in Latin America. On January 14 2001, a day after the first earthquake, a Pan-American team of 16 SUMA experts arrived to deploy the full operation, assisted by the Comalapa Airport Fire Brigade. They immediately set up the different units and trained local volunteers, military and emergency relief personnel to create a self-sustaining local team.

The generous response of the international community in support of the affected population was felt immediately. On the same day as the first earthquake, 19 airplanes had already arrived at Comalapa Airport (San Salvador, El Salvador) from neighbouring countries. By the end of

**FIGURE 1**  
**Flow Chart of Information and Goods Registered into SUMA**



Source: Tomasini and Van Wassenhove (2003).

March 2001, SUMA had registered 16,000 tons of goods arriving in approximately 900 flights from 41 countries. While all of this help is extremely helpful for the population, if the local authorities are not ready to receive it, imagine the logistical bottlenecks and conflicts can create.

Considering the magnitude and impact of the damages suffered and the quantity of aid that usually follows, the risk of overwhelming the local logistical capacity was high. However, SUMA's presence helped to expedite the flow of goods to recipients. The methodology that supports the software helps to label, prioritize, store and distribute goods in a very time and resource efficient manner. On average, the goods were processed within twelve hours from reception to distribution. At the same time SUMA produced periodic and comprehensive reports that gave snapshots of the needs and status of donations. Having a standardized systematic approach with an intuitive and user-friendly interface made it easier to rotate the human capital that so rigorously devoted endless hours over consecutive days, without losing momentum.

### **Procuring Aid**

While the international community contributes a great portion of aid with in-kind donations, another large percentage is obtained through government purchases funded by cash donations. This tends to be a very effective way to meet specific needs with accuracy and speed. Wherever possible, the purchases are done locally to stimulate the economy and minimize costs, or through preferential agreements with international suppliers.

In El Salvador, the National Committee for Solidarity (CONASOL), a private sector committee, was created by President Flores to manage the collection of funds, and procurement and distribution processes of relief efforts. Reports indicate that 56% of the goods registered by SUMA were purchases by CONASOL using cash donations. This is equal to approximately 8.4 tons of food and personal items.

Under the watchful eye of the international community and humanitarian stakeholders, CONASOL had the challenging task of procuring the right amount of goods, at the right time, to be delivered to the right place. Such decisions could only be made with a reliable system that would track the activities taking place in the humanitarian supply chain (incoming goods, goods in transit, stored, distributed, or unsolicited).

Let us consider that the procurement process is not only judged by how well the funds are managed but also by the quality of the response. In a humanitarian operation, this translates into speed and accuracy. For these two characteristics, SUMA was judged by the users to be valuable in harmonizing the procurement process with operational standards that expedite reception and distribution of goods. In other words, SUMA's methodology sets out guidelines for packaging and labelling, for categorization of goods, and prioritization. The harmonization of these processes enables goods to be rapidly available for distribution at the airport reception point without creating bureaucratic bottlenecks or confusion. Accuracy depends on how well CONASOL assessed the needs, and this includes using SUMA's report to identify gaps in the supply chain of needs that have not been met, and allocating funds for their procurement.

As with any financial process, CONASOL had to ensure that all their transactions were transparent and acceptable to public scrutiny. Therefore, having a tracking system that could quickly generate reports with clear and objective data was extremely helpful to clarify any confusion and prevent rumours of mismanagement. In particular SUMA helped to show how funds were allocated. It showed when and where the goods were received, and how they were distributed.

### **Accountability**

Humanitarian operations are complex in many ways, particularly given the number and diversity of the different stakeholders involved. There is public sector with the government agencies, emergency relief mechanism, and local authorities. There is the private sector with the corporations, service providers, good suppliers, and individuals. In between, you have the international community and the large and small aid agencies. Lastly, there is society at large, which regardless of their condition after the disaster is exposed to unexpected changes.

Among all these stakeholders there is a plethora of incentives and mandates that need to be coordinated for an effective response. Failure to do so would be at the expense of optimal performance and ultimately the well-being of those in critical need of assistance. To coordinate all these stakeholders, some level of accountability needs to be present that assigns responsibilities and reports on the actions of each party.

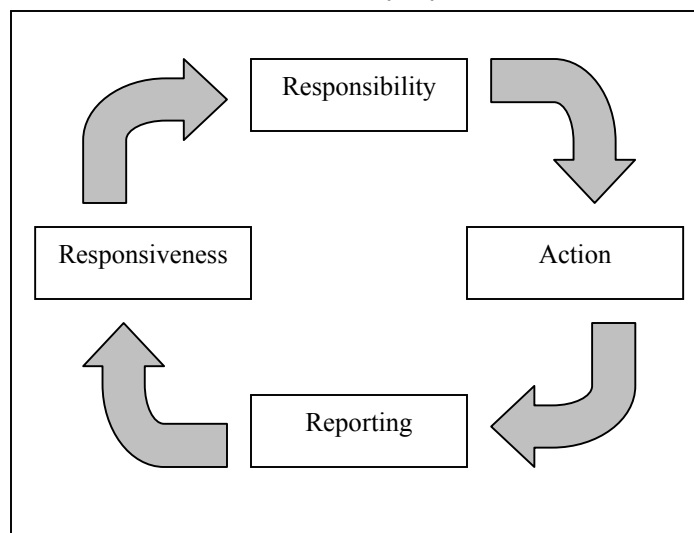


Unfortunately, lack of accountability is a systematic problem within the aid system, where donors get away with the humanitarian consequences of politicization. While there are concrete examples of wrong decisions with humanitarian consequences, it is not a common practice that donors are made accountable for them. Humanitarian agencies are not accountable for their unprincipled actions either, as long as they are fulfilling the donor's conditions and meeting their narrow institutional interests (Atmar, 2001).

Accountability can be achieved through a four-stage cycle that eventually supports the interactivity between stakeholders (Raynard, 2002) (Figure 2 and Table 2). The first stage has to do with defining the roles and responsibilities of each stakeholder. In El Salvador this was clear for international aid agencies and donors. On the local front, there was some initial confusion between government agencies (COEN and CONASOL), but that was quickly resolved as each defined its strengths and capabilities.

The second stage is the ability of each stakeholder to act on the duties for which they are responsible. Third is the ability to communicate

**FIGURE 2**  
**Accountability Cycle**



Source: Raynard (2002).

**TABLE 2**  
**SUMA Processing Accountability**

Accountability		Concept	SUMA
STAGES OF ACCOUNTABILITY CYCLE	Agreement on clear roles and responsibilities	Define roles and responsibilities	Government, under the arms of COEN and CONASOL, has main responsibility for management of the humanitarian supply chain.
	Taking action	Stakeholders' ability to put into actions their roles	Operations are set up using the SUMA software and units design. SUMA assists personnel in recording incoming goods, managing the warehouse, tracking distribution, assessing need gaps against...
	Reporting	Ability to communicate clearly and objectively	The system generates objective information on the management of the goods entering and needed in the supply chain. Charts, graphs and statistics are communicated to all stakeholders including media, communities and donors.
	Responding	Capacity to empower relations to act	As the information is divulged the needs become apparent and associated stakeholders become automatically responsible.

clear and objective information. These two stages are supported by SUMA's capacity to collect and process all the data and to generate reports that support the organizations' decision-making process while informing the public of the organization's activities.

The fourth stage involves responding to and complying with agreed standards of performance and the views and needs of the stakeholders. The process of creating accountability also offers a set of standards to audit the stakeholders' performance. For example, during an evaluation, one can build indicators to determine transparency, responsiveness and compliance<sup>3</sup> for each stakeholder's operation. Such was the case in El Salvador where a public-private commission was set up, including Price Waterhouse and KPMG Peat Marwick, to audit the reception and distribution of goods as well as the management of funds. This audit

used SUMA's indicators as well as humanitarian principles as a benchmark for evaluating stakeholder contribution.

In an independent survey (Nicolas & Olson, 2001), when asked if SUMA facilitated transparency in the management of assistance to disaster areas, the consensus was positive. In fact, evaluators noted that this question generated the most animated responses from the interview subjects and SUMA's contribution to transparency was repeatedly emphasized without prompting (Nicolas & Olson, 2001).

### **De-Politicizing Humanitarian Space**

The political environment in El Salvador rendered some operations challenging. Yet at the same time, this was an opportunity to show that trust in the government could be achieved. For that, the transparency provided by SUMA's methodology was very useful.

El Salvador was still recovering socially and politically from the scars of a 12-year civil war that took the lives of approximately 75,000 people. The incumbent government faced strong opposition from a significant portion of the population, who identified themselves with the opposition party.<sup>4</sup> In general, a section of the population had doubts about the government's approach to manage the aid.

As with any humanitarian operations, all the stakeholders, including government, were judged based on adherence to the humanitarian principles of humanity, impartiality and neutrality in their decisions and actions. Humanity implies that all human suffering be relieved wherever it is found. Impartiality indicates that assistance be provided without discrimination, with priority to the most urgent needs. Neutrality implies that relief should be provided without bias or affiliation to any party. These principles are the walls protecting the humanitarian space in which operations need to take place. The challenge is that this space is defined by non-humanitarian stakeholders and therefore ever changing and at risk. For example, given the strong political and social polarization in El Salvador, there were fears that at some levels these principles could have been compromised for political interests of one party over the other.

Having a neutral coordination body, like the SUMA team, and a coordination tool, like the SUMA software in place serves as a 'gatekeeper' for the humanitarian space. The system is capable of objectively reporting irregularities while instilling a set of operational standards that adhere to the principles at stake.

SUMA's reporting capabilities enable the media to communicate the processes' transparency. In El Salvador reports were generated periodically outlining the actions taking place at reception points, airports, warehouses, and purchasing. The reports also detailed the distribution and who was involved at each step. Having this information public made it easier for the stakeholders to clarify and avoid any misunderstandings. It also set the boundaries for potential manipulation or diversion, as it would have been easier than usual to track the parties and goods involved.

### CONCLUSION

In conclusion, SUMA's methodology isolates the political factors of the aid from the humanitarian operation providing an independent and objective report system. This facilitates the processing of large amounts of data into informative reports. These reports are useful to recipients, who had a need to know what need will be met; to donors, to ensure that their funds and goods reach their final destination; to government and humanitarian agencies, to ensure all assessed needs were met, predict gaps, manage inventory, schedule for distribution, and audit processes.

SUMA software and a coordination platform facilitate building and protecting a humanitarian space. It increases transparency, removing non-humanitarian incentives and creating accountability amongst stakeholders. It gives stakeholders in advance the indicators with which their performance will be judged. Finally, it supports the procurement process by identifying unmet needs in the field, and tracking the flow of goods through the supply chain.

SUMA (Supply Management System) is divided into three main types of units. All three units operate using the same software with pre-established procedures sharing files through the Internet where possible. The location and number of units varies and adapts to the changing needs in the field. They are staffed with a combination of FUNDESUMA experts, local trainees, and volunteers, oftentimes with the support of the local government, military and emergency response mechanisms.

### ACKNOWLEDGMENTS

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#### NOTES

1. This section is largely extracted from the FUNDESUMA [On-line]. Available at <http://www.disaster-info.net/SUMA/ingles/menu1.htm>. However, graphs and charts have been designed by the author.
2. Costa Rican-based non-profit organization dedicated to the management of relief operations and the implementation of the Humanitarian Supply Management System (SUMA) with the support of the Pan-American Health Organization (PAHO).
3. Transparency, responsiveness and compliance are defined by the Institute of Social and Ethical Accountability (ISEA) as the three main components of accountability.
4. ARENA was the incumbent party headed by President Flores. The opposition movement was led by the FMLN, a former guerrilla movement institutionalized as political party in the 1980s by the four leftist groups.

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