How to Protect and Promote the Nutrition of Mothers and Children:

Case Studies in Latin America and the Caribbean
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Situation before the earthquake

The rates of undernutrition among children <5 years of age in Haiti before the earthquake of January 12, 2010 were among the highest in Latin America and the Caribbean. In 2005, one out of three children <5 was stunted (chronically undernourished), one out of 10 was wasted (acutely undernourished), and six out of 10 were anemic. Children are at the greatest risk of undernutrition in the first two years of life, a period of rapid growth and development. In Haiti, about 25% of children were born with a low birth weight. The prevalence of child wasting among Haitian children was highest between 9-11 months of age, and three-quarters of all anemic children were between 6-23 months of age (1).

Prior the earthquake, poverty and food insecurity were widespread: 76% of people lived with less than US$2 a day, and 54% lived in extreme poverty (2). Over half of all households were food insecure (3). One expression of this situation was the great disparity in nutritional status across the country: rates of child stunting were nearly twice as high in rural areas (28%) as in urban areas (15%), and seven times higher in the poorest families (34%) than in the richest (5%) (1).
The direct and indirect effects of the earthquake heightened the vulnerability of mothers and children to undernutrition. Shortly after its occurrence, the Government provided affected families with crucial humanitarian assistance, with the support of the international community—including the World Bank, UNICEF, WFP, PAHO, and numerous international and national NGOs. Assistance to families consisted of food rations, health and nutrition services, access to water and sanitation as well as workfare and cash-transfer programs.

**Emergency interventions to prevent and treat child undernutrition and reduce the risk of child mortality included:**

- Education and counseling on recommended infant and young child feeding practices, including the protection and promotion of optimal breastfeeding practices;
- Blanket distribution of ready-to-use supplementary foods for children and women;
- Micronutrient supplementation of mothers and children with iron-folic acid supplements, vitamin A supplements, iodine capsules, and deworming tablets; and
- Integrated management of acute malnutrition.

**Among the logistical arrangements set up to deliver these interventions were:**

- 107 “baby tents” and “baby friendly centers” to provide a safe space for mothers to breastfeed, IYCF counseling, and artificial infant formula for young orphans and children whose mothers were unable to breastfeed;
- 159 community-based outpatient therapeutic feeding programs for children suffering from severe acute malnutrition without medical complications;
- 28 stabilization centers in hospitals for children suffering from severe acute malnutrition with medical complications;
- 240 supplementary nutrition sites for children suffering from moderate acute malnutrition;
- Mass campaigns for the distribution of micronutrients and deworming medicine;
- Basic maternal and child health services (in particular immunization) in health facilities; and
- Contracting of NGOs to provide safe drinking water, hygiene, and sanitation services in camps.
The achievements attained during the first year as a result of these interventions included the following (4, 5):

1. 49,000 pregnant and lactating mothers received services in the baby tents;
2. 83 percent of mothers who attended the baby tents practiced exclusive breastfeeding for 6 months;
3. 102,000 orphans or children whose mothers could not breastfeed received ready-to-use infant formula for 6 months;
4. More than 1 million children 6-59 months of age (85% of the target children in the country) received vitamin A supplements, deworming tablets, and iodine supplements, as appropriate;
5. More than 500,000 pregnant women received iron-folic acid and iodine supplements;
6. More than 11,250 severely wasted children were treated;
7. More than 33,790 children 6-59 months were treated for moderate acute malnutrition;
8. 178,719 children 6-59 months received blanket supplementary feeding for the prevention of malnutrition;
9. 113,984 pregnant and lactating women received food as part of maternal and child health/ supplementary feeding;
10. More than 1.9 million children were immunized;
11. More than 680,000 people were provided safe drinking water; and
12. More than 11,300 latrines were built.
Subsequent shocks after the earthquake

While families were still living under very precarious conditions, humanitarian and cash-transfer assistance to affected poor families started to decrease during the second half of 2010. In addition, Haitians had to deal with the successive brunt of soaring food prices and costs of living, a cholera epidemic, and the effects of Hurricane Tomas, which compromised the harvest of key staple crops. These shocks relentlessly exacerbated the already severe hardships being experienced by the poorest families and seriously threatened the nutritional status of vulnerable groups, especially pregnant mothers and young children. As a result, the nutrition interventions listed above were expanded to the rest of the country; zinc supplementation was added to the treatment of diarrhea, including cases of cholera in children; and supplementary feeding to prevent malnutrition among children exiting the cholera treatment centers was provided.

Nutrition situation after the earthquake

Short-term impact

A standardized monitoring and assessment in relief and transition (SMART) survey (6) conducted four months after the earthquake (May-June 2010) in affected areas showed that the nutrition situation in children remained stable compared to that observed before the disaster. The prevalence of acute malnutrition among children 6-59 months of age varied from 2.49% to 5.62%. Severe acute malnutrition was between 0.47% and 1.50%. The report did not provide chronic malnutrition rates.

Mid-term impact

A second SMART survey conducted in 2012, slightly more than two years after the earthquake (7), showed a decrease in the prevalence of malnutrition levels compared to data for 2005-2006 (1). The stunting rate in children 6-59 months of age was 23.4%. Acute and severe acute malnutrition rates were 4.1% and 1.0%, respectively. These results suggest that the interventions and delivery mechanisms set up in response to the crises had a mitigating effect on child malnutrition in Haiti.
Success factors

The rapid response and application of evidence-based, cost-effective interventions focusing on protecting nutritional status in the first 1,000 days proved to be protective against further increases in the prevalence of acute malnutrition among young children exposed to successive shocks.

- Timely availability of sufficient resources (earmarked and non-earmarked) facilitated the implementation of interventions, efficient procurement of products, and strengthening of national institutional capacity.
- Mobilization and deployment of qualified, experienced in-country technical assistance in nutrition was highly valuable in supporting the Ministry of Health in the design and implementation of emergency and recovery response as well as in updating nutrition security policies and programs.
- An efficient coordination mechanism, co-led by the government and the United Nations Nutrition Cluster, with the support of numerous international organizations, allowed for better allocation of resources, identification of coverage gaps, sharing of knowledge and best practices in the field, and sustainability of the interventions into the recovery period.
- Protection, promotion, and support of optimal infant and young child feeding practices—in particular, exclusive breastfeeding and intense hygiene promotion—likely protected a large number of young children from cholera.
- Donation and distribution of artificial infant formula were carefully monitored by the National Nutrition Coordination Committee.
- Blanket distribution of specific products adapted to the needs of pregnant and young children contributed to containing malnutrition.
- Rigorous monitoring and evaluation, implemented in a timely manner, revealed the adequacy of the nutrition response.
- Positive results heightened political interest in increasing investments to improve nutrition security.
Opportunities for sustained reduction of malnutrition

While levels of acute malnutrition never reached emergency thresholds, chronic malnutrition—which reflects chronic nutrition deprivation—has remained a silent crisis in the country for one in three children <5 years of age. Large gaps remain in access to health and nutrition services for children in hard-to-reach rural areas and for those living in overpopulated urban slums. The strengthening of health systems and the creation of a network of services are needed to assure that all children are reached. Results-based financing of the health sector and household development agents are promising initiatives to extend service coverage.

- Acute malnutrition remains a concern in some pockets across the country, particularly in remote and isolated areas. Scaling up community-based management of malnutrition would be a cost-effective intervention.
- Mechanisms to monitor food and nutrition security for real-time information and decision making are critical, and partners of the National Food Security Coordination and the Ministry of Health are working on developing such mechanisms, possibly including the use of mobile technology.
- Further strengthening institutional and local capacities is important to scale up prevention, targeting, and early identification of vulnerable children, as well as to ensure timely and appropriate management/referral of cases of undernutrition. Efforts are being undertaken to provide nutrition training programs in Haitian universities in collaboration with academic institutions from other countries.

Policy and program implications

- In countries prone to crises and emergencies, national nutrition and food security policies and strategies should include plans to protect the nutritional status of vulnerable populations, with particular emphasis on interventions aimed at optimizing nutrition during the first 1,000 days of life.
- Attention should be paid to “recipient” households that provide shelter to displaced victims, to prevent food insecurity caused by the additional people they are feeding.
- Timely implementation of a rigorous nutrition surveillance or monitoring and evaluation system should be ensured to assess the nutritional status of the population, identify vulnerable populations, and evaluate the effectiveness of the delivery of various nutrition interventions.
- Services should be extended, either through partnerships or results-based financing mechanisms, to achieve adequate geographic coverage and access to care by individuals living in the most remote rural areas and urban slums.
- Long-term capacity of the health system and communities should be strengthened to reduce rates of child stunting in Haiti.
- Recovery and national capacity building should be an important part of the humanitarian response, for which governmental and partners’ capacity should be strengthened to ensure adequate nutrition interventions are provided to children and pregnant and lactating women.
- Coordination and communication among all partners—governmental institutions, UN agencies, international organizations, non-governmental organizations, local entities, and community based organizations—should be considered essential to effectively deliver nutrition interventions.
Guatemala: Management of Emergencies

Context

High levels of inequality and poverty in Guatemala were among the findings of a United Nations study in 2009, conducted after the climatic phenomenon “El Niño” resulted in a prolonged dry season with irregular rainfall, especially in a strip of Guatemalan territory known as “the dry corridor” for its semi-arid lands, degraded, low-crop yield, and recurrent periods of drought. That year, agricultural production in municipalities in nine departments in this strip were the most affected, rendering residents increasingly vulnerable to food insecurity and, therefore, at greater risk of worsening nutritional problems. In late August, the media began reporting increasing numbers of cases of acute malnutrition. As a result, a month later, the Government declared a “state of public calamity” to address the crisis of food and nutrition insecurity facing the country. At the time 410,780 families or some 2.5 million people were at risk from food and nutrition insecurity, including at least half of all children and adolescents <18 years of age.

In response to the Government’s call for international cooperation, the United Nations established a Nutrition Cluster led by UNICEF and including WFP, UNFPA, and various NGOs that make up the “Humanitarian Network.” The Cluster then proceeded to plan interventions to manage acute malnutrition in Guatemala with the aim of saving children’s lives.
Interventions

The Cluster conducted an initial assessment of the situation with regard to food insecurity in the country and, on that basis, designed a plan to prevent morbidity and mortality associated with acute malnutrition in children <5 years of age. The main strategy was to provide comprehensive care for the treatment of uncomplicated acute malnutrition at community level with the participation of the Ministry of Health, other community health and nutrition programs, food security municipal councils and community leaders, and hospital personnel handling cases of severe acute malnutrition.

Humanitarian actions focused on:

- Acquisition of supplies to save the lives of children < 5 years of age with acute malnutrition (moderate and severe).
- Immediate identification of acute malnutrition without complications at the community level and with complications at the hospital level.
- Public information, education, and communication with emphasis on counseling to detect danger signs and learn appropriate feeding practices, with the aim of promoting the nutritional recovery of children and women of childbearing age.

Results:

- Therapeutic formulas (F-75 and F-100) were acquired and distributed in hospitals for the treatment and nutritional recovery of 1,000 children with severe acute malnutrition in the most affected area.
- 4,000 were provided oral rehydration sachets.
- Over 200 health and nutrition professionals were hired and trained to assure adequate response to the crisis.
- Exclusive breastfeeding and adequate complementary feeding were promoted through local media.
- A communication plan was developed to teach mothers how to prepare nutritious porridge with local foods, through community demonstrations.
- The lives of at least 4,000 children < 5 years of age were saved.
The Nutrition Cluster is a very important entity to coordinate actions during emergencies.

It is important that the Nutrition Cluster know in advance which institutions work where and what kind of inputs are pre-positioned. Risk management plans need to be ready at the local level in advance of emergencies.

Although emergencies occur every year in Guatemala, the emergency response often fails to incorporate the management of malnutrition among its priority actions.
Recommendations for policy change

Community leaders and those working in entities that deal with emergencies should have some basic knowledge about the importance of protecting nutritional status in unstable times, so that immediate action can be taken to promote breastfeeding and to protect children <5 years of age, especially exclusive breastfeeding in children < 6 months of age. Such knowledge is particularly critical, because one of the first foods donated during emergencies is powdered milk, and there is as yet no regulation to control these donations.
HAITI: TACKLING MALNUTRITION WITH READY-TO-USE LOCAL FOOD PRODUCTS

Clark Matthews7, Marie Chantal Messier8, Peter Holland9, and Lora Iannotti10,11

Chronic undernutrition significantly impedes a country’s development and economic growth. In Haiti, before the January 2010 earthquake, approximately one in three children <5 years of age was stunted—an indicator of chronic undernutrition. Stunted children do not fully develop physically and mentally, which in turn reduces their capacity to become successful and productive adults. Thanks to a local initiative in northern Haiti, a new nutritional supplement is showing promise in efforts to tackle the country’s twin challenges of chronic undernutrition and unemployment.

Policy Implications and Recommendations

✓ Prevention and treatment of malnutrition requires sustainable, scalable, multisectoral approaches.
✓ Complementary food supplements can be cost-effective in addressing chronic undernutrition.
✓ Better nutrition outcomes can contribute to faster economic growth and higher rates of return on investment.
✓ Nutritious supplementary foods can be produced locally, contributing to economic development and poverty reduction.
✓ Provision of these foods should be accompanied with other health and nutrition services, such as growth promotion, education regarding optimal child feeding practices, vaccinations, and hygiene.
✓ Delivery requires innovative solutions to reach the most vulnerable children.
✓ Monitoring and evaluation is essential to ensure the efficiency of intervention.

Innovative products to prevent chronic undernutrition

In the last few years, various food-based products have been developed to deal with the different forms of undernutrition, in both the treatment and the prevention stages. They are primarily fortified, ready-to-use food products that consist of peanuts, oil, and milk and that provide a concentrated form of energy, fat, protein, vitamins, and minerals. These products have a long shelf-life and contain no water, which inhibits microbial growth and allows safe storage at home even in tropical climates. They do not require dilution or preparation and can be consumed directly from the package or combined with meals. Ready-to-use therapeutic foods (RUTFs) are calorically dense and are used for the treatment of acute malnutrition, whereas ready-to-use supplementary foods (RUSFs) contain fewer calories, yet still have a full comple-

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7 World Bank, HDNED.
8 World Bank, LCSHH.
9 World Bank, LCSHE.
10 Washington University.
11 Christine McDonald provided editorial support.
12 Chronic undernutrition refers to a child with a low height for age. The condition is also referred to as growth retardation or stunting.
Nutritious complementary food supplements, such as Nutributter, are intended for the prevention of chronic undernutrition. RUTFs have been used in Haiti for many years for the treatment of acute malnutrition. The use of RUSFs for the prevention of chronic undernutrition has, however, until now been limited.

Nutributter is an RUSF, a 20-gram package of which provides about 100 kilocalories and 100% of the daily recommended intake of key vitamins and minerals. The product is suitable for children 6-24 months of age and should be used to complement, not replace, continued breastfeeding and a varied diet of local foods.

A study to assess the effectiveness, feasibility, and acceptability of distributing complementary food supplements was funded by the World Bank in 2011 and carried out by the George Warren Brown School of Social Work at Washington University, in collaboration with Edesia, a US-based producer of Nutributter, and Meds and Foods for Kids (MFK), the local manufacturer of ready-to-use foods based in Cap Haitien. As per MFK’s model, the food supplements were delivered in conjunction with an integrated package of services that includes education about exclusive breastfeeding for the first six months of life to reduce the prevalence of chronic undernutrition, improve anthropometric measures, and promote cognitive development in early childhood.

The Costs of Undernutrition in Haitian Children and the Rationale for Investing to Prevent It

Annually, Haiti loses over US$56 million in GDP to vitamin and mineral deficiencies, and approximately one-third of child deaths are due to undernutrition, mostly from increased severity of disease (1). Prior to the earthquake, one-fourth of infants were born with a low birth weight, and three-fourths of children 6-24 months of age were anemic. Children less than 36 months of age are the most affected by chronic undernutrition, with two-fifths of children suffering from growth retardation (2).

Poor infant feeding practices contribute greatly to these alarming rates of undernutrition. Only 41% of infants younger than 6 months are exclusively breastfed, and 68% of children aged 6-24 months are not fed according to the three recommended infant and young child feeding practices, namely diet diversity, adequate feeding frequency, and receiving breast-feeding or milk products (3). Feeding children highly nutritious foods is a daily challenge for Haitian families, as nutrient-dense foods are often unavailable or unaffordable. Poor dietary quality and high rates of infections are compounding factors that exacerbate rates of undernutrition in the country.

The first 1,000 days of life is a stage of crucial growth and development, during which undernutrition can most effectively be prevented. After the age of 24 months, the consequences of chronic undernutrition become irreversible, and a child’s cognitive development suffers.

The Copenhagen Consensus has ranked nutrition interventions among the most profitable of social investments. Moreover, evidence for investments in early childhood development (ECD) demonstrates that rates of return on such investment can be substantially higher than the rates for remedial human development interventions (4).
MFK is a registered non-governmental organization that has operated in Haiti since 2003. As part of the World Bank grant, MFK implemented a randomized controlled trial of Nutributter to determine the effectiveness of providing RUSF in tandem with other health and nutrition services to prevent chronic undernutrition. The study also aimed to determine the viability of a market for locally produced Nutributter, which would involve local farmers and agribusiness.

The trial began in June 2011 and is being conducted in Fort St. Michel, a large slum area on the northern coast of Haiti where 32% of children <5 years of age are stunted. A total of 350 participants are being divided into mother-infant pairs and randomly assigned to one of three groups: 1) integrated package (IP) only; 2) IP plus Nutributter for three months; and 3) IP plus Nutributter for six months. Infants in groups 2 and 3 start receiving Nutributter between 6 and 8 months of age.

The study will be completed in November 2012, and its findings are expected to be presented in early 2013. Initial findings suggest that the use of RUSF in Haiti can successfully lower micronutrient deficiencies in young children and contribute to improved nutrition security, which will ultimately improve ECD outcome indicators.
It is highly cost effective to prevent malnutrition through the provision of a small amount of fortified complementary food to enrich the nutrient density of a young child’s diet. Averaged over a year, complementary food for the prevention and treatment of moderate malnutrition costs about US$0.11-0.22 per child per day (including distribution/delivery costs). On the other hand, community-based management of severe acute malnutrition is an expensive intervention, which costs US$200 per child treated. The cost savings of complementary foods is estimated to be US$500–1,000 per disability-adjusted life-year (DALY) saved, while community-based management of acute malnutrition is US$41 per DALYs saved (5).

The estimated unit cost of production of Nutributter is US$0.08-0.12, which equates to US$9.60-14.40 per four-month treatment of a child (excluding costs associated with the initial investment).

Local production of these complementary foods can also contribute to creating local employment in the short term. In response to increased demand for these foods, MFK is investing in a larger, more efficient factory that will lead to greater economies of scale, increased output, and a positive impact on the national economy, by sourcing products from local farmers, employing and training Haitian workers, and supporting local agribusinesses.

The results of the Nutributter study will allow policy makers to see how the provision of a low-cost, locally produced nutritious product can have a beneficial impact on children’s health and nutritional status while improving their development outcomes.

The study also demonstrates how effective investment in agriculture and agri-businesses can contribute to better human development outcomes while creating jobs and fostering economic development. The prospects for successfully scaling up this innovation are good. In the Haitian context, where peanut paste is already a staple, Nutributter fits well into food-consumption practices. Implementation of supplementary food products for children, to be effective, should be accompanied by education about optimal infant and young child feeding practices, such as breastfeeding, and health interventions such as vaccinations, growth monitoring, and early childhood stimulation.

As is the case with any small business looking to grow, the next phase presents some challenges: the lack of, and need for, innovative delivery strategies to reach remote populations that suffer the highest rates of malnutrition; quality assurance so that, as it increases, local production of complementary foods continues to be in accordance with international standards; and rigorous monitoring and evaluation to assess impact and continue to inform policy with evidence.

Lastly, supporting sustainable local production and achieving economic development will require purposeful coordination across multiple sectors and with farmers and agribusinesses, research and development, effective service-delivery, and monitoring and evaluation.

Over the long term, the benefits of local food production extend beyond the prevention of undernutrition. It can contribute to better educational outcomes and thus enhance job prospects in adulthood. Fostering nutritional security in children means that the next generation of Haitians will better reach their potential as a smart, strong, and healthy workforce. In a country such as Haiti, with high unemployment and low productivity, this low-cost, high-return intervention holds the promise of becoming a game-changer.
HONDURAS: COMMUNITY NUTRITION VOLUNTEERS PROMOTE CHILD HEALTH AND NUTRITION SERVICES IN THE WAKE OF HURRICANE MITCH

Marcia Griffiths

The Situation

In late October 1998, Hurricane Mitch left Central America reeling from its destruction. In Honduras especially, the storm ravaged large portions of the country with high winds, dumping over five feet of water in one week. According to USAID calculations 5,000 people were killed and as many as half the inhabitants were temporarily displaced. Many of the most-affected areas were already suffering from isolation, underdevelopment, and high levels of child undernutrition.

Description of the intervention during the emergency response

A few months prior to Hurricane Mitch, Honduras, through the Maternal and Child Health Department of the Ministry of Health, had launched a community-based child care program—‘atención integral a la niñez—comunitaria’ (AIN-C). The five health areas where AIN-C was first introduced were also within the zone most affected by Mitch. Each community that initiated the program had selected several community volunteers (monitoras) to be trained in its key activities and to serve as the link between the community and the program. Among the monitoras’ first activities was the conduct of a census of all children <24 months of age. They then began a monthly program of tracking and promoting adequate growth in all children, through weighing, counseling, and, when indicated, referring children to the health facilities.

AIN-C is a community-based program that prioritizes growth promotion. It has been adapted from earlier programs in Asia that had been shown to be effective in preventing malnutrition in young children. Its core is the prevention of undernutrition in infants and children <24 months of age. AIN-C is centered on individual, family, and community actions to improve child health and nutrition by focusing program actions, whether by the household or community, on maintaining adequate monthly growth in all children <2 years of age. The program approach features community volunteers called monitoras, who weigh and counsel caregivers of all children <2. They also refer children found to have problems to the nearest health center. The program combines and strengthens health and nutrition actions to prevent and reduce the prevalence of malnutrition and illness in young children. AIN-C also provides a platform for other child health interventions, such as immunizations, newborn care, and the integrated management of childhood illness (IMCI).

The Manoff Group.
Though the program had just begun, the support that its volunteers offered during the emergency response proved invaluable in those communities. In the aftermath of Mitch, as relief workers were trying to document the situation, these trained monitoras already had a census of the children in their communities as well as scales with which they could quickly assess the nutritional status of children to determine the communities’ nutritional needs. They were also available to distribute food rations; make sure that families with young children and others in great need received appropriate support; and advise caregivers on child feeding practices, the importance of using clean water, and the management of diarrhea.

Anecdotes abound about the importance in the relief efforts of the monitoras and other community agents. A few months after the disaster, information was gathered from 35 communities with the AIN-C program selected at random from two health areas affected by Mitch. The community censuses with nutritional status taken in July/August of 1998 (a few months before Mitch) showed a 19% prevalence of underweight in <2-year-old children. Almost a year later the community censuses from these same communities in May/June of 1999 showed a 14% prevalence of underweight. While trend data from non-AIN-C communities is not available, it would not be expected to see underweight fall in the immediate aftermath of a disaster such as Mitch. And, in fact, a study among resettled families showed that they were confronting a nutritional crisis in July and August of 1999, some nine months after the hurricane. It is probable that the monitoras’ work helped avert a serious nutrition crisis during the emergency.
A portion of the reconstruction money given to the Government of Honduras by USAID went to expanding AIN-C from five to 11 health areas. The reconstruction program began by training the health officials in each new area, and they in turn rolled out the program. Within a matter of months, over 1,000 monitores had been selected and trained and were working in about 275 communities identified as the most in need within the catchment area of every center in the new health areas.

In the communities supported with reconstruction resources where AIN-C operations had been conducted for at least 6 months (43 of 275 communities), BASICS—a USAID-supported child survival assistance program—did a quick assessment, collecting routine growth information (weight-for-age) on children <12 months of age, i.e., those for whom a short exposure to the program would produce the greatest effects. Even before the end of the reconstruction period, results showed a 50% reduction in underweight among infants <12 months even though the mean age of the children at the time of the second measure was about a month older (see table below).

<table>
<thead>
<tr>
<th></th>
<th>First Measurement</th>
<th>Second Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Girls &lt;12 months</td>
<td>8.4% (20/239)</td>
<td>3.5% (5/141)</td>
</tr>
<tr>
<td>Boys &lt;12 months</td>
<td>6.8% (18/264)</td>
<td>4.1% (7/172)</td>
</tr>
<tr>
<td>Total</td>
<td>7.6% (38/503)</td>
<td>3.8% (12/313)</td>
</tr>
</tbody>
</table>

In the table above, of note is the significant decline in the number of children weighed between the first and the second measurement, which could mean that the program was not registering new children and that families in the aftermath of the disaster were not attending as regularly as needed.
LESSONS LEARNED

• Community programs, like AIN-C, can be an efficient mechanism to protect young children’s nutrition and provide an important channel for the government or other assistance agencies to funnel support to communities in need during a period of crisis or emergency. This is because community workers know the families and those who are most vulnerable; they are willing to be called upon to help their community; and they can provide educational support to families to ensure rapid recovery among young children.

• Community-based growth promotion programs such as AIN-C can be strengthened and scaled up, and they are a good investment, in the aftermath of an emergency or during a time of economic crisis, to swiftly deliver services to affected families. Community agents can carry important information to the community and can distribute food, nutrition and health supplements such as micronutrient powders and oral rehydration salts for young children, as well as hygiene and water purification products.

• Community volunteers can prove useful for efficient targeting. Since they know who the neediest families are, they can be the central link to ensure that food and programs are targeted correctly. Care must be taken, however, to ensure the credibility of the monitores and their impartiality. There must also be good communication from the authorities on the temporary nature of assistance, such as food rations, in order to maintain the community’s willingness to participate in community activities and with the monitores once assistance is withdrawn.

• Monitoring of data collected by the monitores and linking them to national health information systems is crucial for rapid and effective nutrition response. As are other countries, Honduras is piloting the use of cell phones, to speed up data sharing and increase the cost-effectiveness of the program.
The Situation

In the late 1960s and throughout the 1970s, the urban centers of Peru experienced a population explosion, with rural dwellers moving in large numbers to cities in search of jobs. With no place else to go, these migrants established “young towns” (pueblos jóvenes) around the outskirts of cities, the number of which grew from 100 to 600 in 20 years. These towns lacked services, and often their populations, with poor Spanish-language skills, found it difficult to cope in the unfamiliar urban environment.

Faced with economic stress and high food prices, women formed groups in these towns and began to buy food in bulk from wholesalers to get better prices. In the short term, they began cooking together as well, and their so-called “common pots” gained popularity, giving rise to the community kitchen movement.

Description of the intervention

The community kitchen movement in Peru is an example of innovative schemes designed by the people who are most affected by the crisis as a means of coping in the easiest, most sustainable way possible. Community kitchens are generally organized by women leaders, and run by women who are the consistent users of the kitchens, although others may join on a more temporary basis. The women buy food in bulk to get cheaper prices from retailers, and then on a given day they cook meals together for the participating families, others who purchase meals, and often for widows and orphans in the community. One study (1) found that women spent one full day every two or three weeks in the community kitchen. The kitchens allow participants to serve their families from one to three meals a day. Each kitchen calculates how participants are remunerated for time spent in service of the kitchen. The hours of free work that a family contributes to the operations allow them to take either free or reduced-price meals from the kitchen. Other people who do not volunteer their time can benefit from most kitchens by paying for their meals. The cost of the meals prepared by the kitchens is affordable, as it is below the cost of the same meals if they were prepared by that individual or family on their own; the lower cost derives from the ability of the kitchens to obtain food at reduced prices or from donations and from the fact that the families do not have to pay for cooking fuel. In the study cited above, it was found that about 35% of the food at the community kitchen was obtained at a reduced price, and about 7% was donated (1).
When Peru experienced severe macroeconomic adjustment in the 1990s, which was coupled with a steep rise in unemployment and spiking food and electricity costs, the government and many donors channeled their support through the community kitchens. As the number of people seeking inexpensive meals rose, the government subsumed the community kitchens under its social program to increase the buying power of the poor and help them cope with rapid inflation. It then offered community kitchens subsidies and food commodities. In addition, to maximize their service to the poor, many kitchens were able to obtain multiple sources of funding from donors. Those “enhanced” kitchens continued to provide food, but also offered classes to women on nutrition and on home economics topics, such as “best buys” and food preservation. The community kitchens thus proved to be a critical safety net, providing meals at little or no cost.

Community kitchens helped prevent many families from going hungry during years of intense economic hardship in Peru, according to numerous anecdotal reports. When donated foods became available, the mid-day meal served by the community kitchen increased from about 690 to 1,036 Kcal/meal—certainly enough to make a major contribution to a person’s daily calorie requirement. Even more important was the composition of the meals and who benefitted most from them nutritionally, namely women and possibly young girls, as they were the ones who worked in the kitchens and had easiest access to the food. Many women took their meals home and mixed the kitchen meal with additional food to feed the family, especially during the worst of times. Only about 10% of children <4 years of age were receiving food from the kitchen; the rest were getting other food prepared at home. Women primarily, but their families as well, ate more beans (a common donation to the kitchens), eggs, and dairy products when they participated in the kitchen program than when they did not, although their consumption of fruits and vegetables was about the same as those who did not participate (1).

While the kitchens can improve diet diversity, they can also be a channel to target improved intakes of specific nutrients. Another study demonstrated that, by distributing iron tablets to women and adolescent girls and increasing their use of iron-rich foods, including legumes, iron intakes were significantly increased among those who used the kitchens: on average, 18% for women and 11% for adolescent girls (2).
Participants noted that working with the women’s group in the community kitchens improved their belief that they could make a difference for their family and community. Many women gave testimonials about how they used skills learned in the kitchens to start their own businesses, thus helping their communities develop economically.

Stability of the population participating in the community kitchens and the ability of the community kitchens to target those most in need were also identified issues. The participants were quite mobile, moving constantly to find employment; nevertheless, a core of women dedicated to the kitchens remained, providing stability for the programs (3).

Mobility is the main challenge
**LESSONS LEARNED**

- Community kitchens are an efficient approach to reduce hunger among the poor during times of high economic stress. They provide a social safety net and can have a nutrition effect when carefully planned.

- Governments and donors can easily use this community scheme to directly scale up assistance to the poor and provide a sustainable solution in the face of economic crisis and high food prices.

- Community kitchens adjust to the labor market and general economic conditions; hence targeting of the poor and most in need through community kitchens is self-selective. The kitchens can expand and shrink as participants continually assess the trade-off between unpaid work in exchange for free or inexpensive meals and the pursuit of opportunities in the labor market.

- Community kitchens can enhance women’s skills, leadership, and economic power and can be used to orient them to useful social services. They build peer-support among women, who learn to cope together with difficult and often new circumstances of unemployment and poverty. Women also acquire new skills, which can then be applied to starting a business or to increasing their employability.

- Community kitchens can be easily scaled up and replicated to other settings, including developed countries. Several communities in Canada have set up community kitchens for poor populations, particularly in urban settings.
Existing community-based programs that monitor child growth can serve as an early warning system during times of severe fluctuations in weather or employment. Periodically, the price for coffee on the world market fluctuates dramatically, as it did when Vietnam and other Asian countries sold a plentiful supply of good beans on the market and drove down the price of coffee. This deflation caused coffee growers in Central America to drastically cut the amount of coffee they harvested, which in turn meant mass unemployment for day laborers on coffee plantations. In Guatemala and elsewhere, some families moved, while others stayed on or near the plantations, protested the closings and layoffs, and tried to make do until better times. Workers began to support their families by any means possible, including stopping cars to exact a toll on the mountain roads near the plantations.

In the middle of the crisis most policy makers were focused on the economic and security situation, not the festering health crisis until community nutrition workers sounded the alarm. These volunteer workers weigh young children every month (see the Honduras AIN-C case study) and assess the numbers of children in their community who have failed to gain adequate weight. Within a month and a half of the coffee crisis, health centers in the area were receiving reports from the volunteers citing high numbers of children who were not growing adequately—that is, they were failing to gain weight. When these reports reached the health centers, they sent teams to the affected communities to assess the situation. Those teams determined that a significant proportion of the young children, in a very short period of time, was suffering from acute malnutrition. In communities where no child had been acutely malnourished (low weight for height), 12-18% of the young children in affected communities were thin. As a result, food was rapidly mobilized and distributed to families with pregnant women and young children to avert a serious nutrition emergency. Again, the case of coffee workers in Guatemala demonstrates that investments in a community nutrition program, even when focused on prevention, pay off in times of crisis.