Social protection networks in Central America and the Dominican Republic: Do they have a nutritional dimension?

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Abstract

Background. *It is not known whether the social protection networks in the Central American subregion and the Dominican Republic have a nutritional dimension.*

Objective. *To explore whether the social protection networks in Central America and the Dominican Republic have a nutritional dimension.*

Methods. *A survey was conducted during 2009 of 110 social protection programs and 10 national plans in Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama, and the Dominican Republic.*

Results. *Most of the social protection programs did not have a nutritional dimension.*

Conclusions. *With few exceptions, the social protection programs were not prepared to prevent undernutrition. There may be a similar situation in other regions. It is recommended to incorporate the nutritional dimension into all social protection programs and social safety nets in Central America and the Dominican Republic as well as in all other countries with low-income populations, worldwide.*

Key words: Central America, Dominican Republic, Millennium Development Goals, nutritional dimension, poverty, social protection programs, social safety nets, undernutrition, stunting

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The contents of this paper do not necessarily reflect the views of the World Food Programme.

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Background and rationale

It is well known that social protection networks* are "the instruments to protect the human right to food and nutrition, the mechanisms to secure food, nutrition and health; to develop human capital; to promote self-sufficiency and empowerment; to reduce inequality and social exclusion; and, to decrease poverty." The term "nutritional dimension" is proposed in this paper as "the identification of the main nutritional problems, the most affected population groups, their geographic location, the inclusion of nutritional objectives, interventions/actions and nutritional indicators in the different phases (formulation, implementation, monitoring and evaluation) of a social protection program and social safety net." Since the year 2000, all countries in the world have agreed to make every necessary effort to reduce hunger and child undernutrition by half and to eliminate extreme poverty, illiteracy, and preventable illnesses by the year 2015. Today, a very large fraction of people in the Central American subregion and the Dominican Republic are poor and hungry. Child undernutrition not only is not decreasing but may be on the increase, at least in two of the eight countries of the Central American subregion and the Dominican Republic. Serious gaps and inequalities persist within and between the countries [1–3].

The problem is that this is one of the subregions where the greatest inequalities exist. In 2008, the regional prevalence of stunting among children under 5 years of age was 23.5% [3]. The prevalence rates for individual countries were 54.5% in Guatemala (one of the highest rates in the world and the highest in the Latin American and Caribbean region), 30.1% in Honduras, 22.0% in Belize, 21.7% in Nicaragua, 19.2% in El Salvador, 19.1% in Panama, 9.8% in the Dominican Republic, and 5.6% in Costa Rica. At the regional level,

* A social protection network is a broader concept than a social protection program. A social safety net or social protection network is formed by several linked social protection programs.

the prevalence of anemia was 39.5% among children under 5 years of age, 31.1% among pregnant women, and 23.5% among women of childbearing age [4]. In Guatemala, half of the children under 2 years of age had anemia, and the combined prevalence of stunting and anemia was 70% in indigenous children under five [1–3]. Lastly, the rates of zinc, folic acid, iodine, and vitamin A deficiencies were also high in several of these countries [3, 4].

The exceptions were Costa Rica and the Dominican Republic, which are the countries with the lowest prevalence of stunting and wasting as well as other micronutrient deficiencies. Nevertheless, even in these countries, there are big disparities between rural and urban areas, as well as between indigenous and nonindigenous children in Costa Rica. Costa Rica has been protected for 62 years by a comprehensive, long-term nutrition social policy which was integrated with early child development programs. It was also the first country in Central America to eradicate polio, neonatal tetanus, and measles [2].

The main nutritional problems affecting children under 2 years of age are stunting and iron-deficiency anemia. Anemia is also the main nutritional problem in pregnant women, with a prevalence of 31.1% [4]. Furthermore, the people of this subregion are facing a nutritional transition, in which nutritional deficiencies coexist with unbalanced diets, food excesses, overweight, obesity, and chronic diseases.

The estimated prevalence of HIV infection in the adult population of Nicaragua in 2009 was 0.2%. The Dominican Republic, Panama, and Honduras were more affected by the epidemic, with prevalence rates ranging from 0.7% to 1.1% of the adult population. The prevalence soared to 2.1% in Belize. The higher rates were associated with nutritional deterioration and increased morbidity and mortality [5].

In summary, the rates of poverty, hunger, undernutrition, and social exclusion are high among children under two, pregnant and lactating women, indigenous peoples, and Afrodescendant populations. Undernutrition is a cause and a consequence of poverty and perpetuates the poverty cycle. It implies a violation of the rights to food, to life, and to health, among other human rights.

With regard to potential solutions, there is new scientific evidence about cost-effective interventions focused on children under two that could reduce stunting [6] and thus help to reduce poverty. The universal ratification of the International Convention on the Rights of Children has highlighted the prevention of undernutrition as a central issue in the political agenda of all countries, poor and rich. New public commitments made recently by the secretary general of the United Nations to support the prevention of undernutrition are helping the achievement of the Millennium Development Goals and contributing practical support to the solution of the nutrition problem [1, 2].

Feasible solutions are also to insert the nutritional dimension into all social protection networks and social safety nets and their scaling up at the national level to protect the human capital. In Central America and the Dominican Republic, it is not known whether the social protection networks have a nutritional dimension or what priority is given to children under two, pregnant and lactating women, persons living with HIV, indigenous peoples, and Afrodescendant populations.

Therefore, the two objectives of this study were to determine whether the social protection programs have a nutritional dimension and to determine what priority is given to children under two, pregnant and lactating women, persons living with HIV, indigenous peoples, and Afrodescendant populations. This study was the follow-up to the Organization of American States Mandate at Reñaca, Chile, 2008, and it is within the context of the Millennium Development Goals and the World Food Programme framework.

Methods

A survey was conducted of 110 selected social protection programs in the eight studied countries: Belize, Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama, and the Dominican Republic. The survey form contained 79 questions with an average of 10 answer options per question for a total of 790 options. It included questions with multiple answers, and in these cases the denominator was the total number of answers. Qualitative information was collected to identify the strengths, weaknesses, opportunities, and challenges (SWOT analysis) by means of written interviews with leaders of public opinion and program managers in the countries. Data collection was performed during June 2009 by World Food Programme officers and consultants in each of the countries with the participation of government officers and program managers. The survey questions covered the following program areas: main nutritional problems; causes; location, most affected populations, and geographic areas; criteria for target populations; objectives, goals, indicators, and actions delivered; coverage by age group; program duration; norms available and their adequacy; resources (human, economic, and organizational); funding issues and budget; logistics; evaluation of nutritional impact; legal and institutional basis; human rights, community participation, and cultural and gender approaches; sustainability; linkage with poverty reduction approaches; and achievement of Millennium Development Goals.

Most answers were precoded, and the form was completed and signed by the corresponding manager of each of the studied programs. Data collection took

about 1 hour per program. All data were sent to the World Food Programme Regional Office in Panama City, Panama, where they were processed and analyzed.

The selection criteria for social protection programs were as follows:

» Population covered: over 10,000 inhabitants, 10 communities, or 1 municipality.
» Type of social protection program: conditional transfers, mother and child nutrition, mother and child health, food-based, micronutrients, nutrition recovery, productive, childhood care, and HIV programs.
» Target population: children under two, pregnant and lactating women, people living with HIV, indigenous peoples, Afrodescendant populations, persons living in poverty (moderate or extreme).
» The social protection program had a 2009 budget.
» The program was officially recognized by the government (Health, Food Security and Nutrition, Social Development, Agriculture, or First Lady's office). Programs run by nongovernmental organizations or by external cooperating agencies but coordinated with a government office were also included. School feeding programs and emergency response and other programs for adults were not included (with the exception of HIV programs).

Quality control, validity, and reliability were assessed through data crossing, in-depth questioning, knowledge of the existing programs by the World Food Programme country personnel, and any additional pertinent documentation. As a backup for the answers to the survey questions, a written, signed report was requested. When evaluations of nutritional impact were reported, the corresponding written and signed report was analyzed. To define the type of program, its key, central characteristic was used. When mixed activities were found, all the main actions were documented. It was this characteristic and not the source of funding that defined the type of program. In addition, the source of funding was described. Frequency distributions were performed to identify the data falling out of the expected distribution. Data that were considered unsatisfactory were deleted from the main database and filed apart. These processes led to corrections of the database, but they did not modify any of the main conclusions and recommendations of the study.

The software used was SPSS for Windows, version 7.0. Most analyses were preprogrammed to deliver a rapid preliminary report. The nutrition terms used in this paper were those defined by the World Health Organization (WHO), the Food and Agriculture Organization (FAO), and the *Lancet* series on Maternal and Child Undernutrition, 2008 [6, 7] (**fig. 1**).

The participants included representatives of governments, nongovernmental organizations, civil society, the private sector, universities, the United Nations, and institutions from the Central American subregion and the Dominican Republic. Overall guidance was provided by a High-Level Technical Group formed by 26 distinguished experts from the institutions mentioned in the Acknowledgments.

The World Food Programme team was formed by the nutrition and HIV officers from the regional and country offices and consultants led by Angela Cespedes as the regional head of nutrition and supported by Aaron Lechtig as the senior consultant.

Limitations of the study

The main limitation of the data analysis was the high degree of program heterogeneity. This led to 11 program categories, and as a consequence, when the data were broken down by country, there were too many cells with a very small number of programs in each cell. This reduced the sample considerably, impeding the multivariate analysis.

Some programs relevant to the study, such as mother and child health programs, were not considered within the sampling of some countries (Belize, Costa Rica, El Salvador, and Panama).

Despite these limitations, the study met its objectives. The methodology used, as well as the broad participatory process, can be totally replicated in other programs of the study subregion and in other regions of the world.

Results and discussion

Type and number of social protection programs

There was information on 110 social protection programs and 10 national nutrition plans by country and type of program. The largest groups were mother and child nutrition ($n = 29$), HIV ($n = 20$), and conditional transfer ($n = 15$). The smaller groups were nutrition recovery ($n = 3$) and micronutrient supplementation ($n = 4$). All countries had at least one program in the categories of conditional transfers, mother and child nutrition, food, and HIV. Only a few countries had programs in the other groups. National nutrition plans and policies were not studied in three countries.

There was no association between the number of programs per country and the prevalence of stunting. In summary, there were apparently too many programs and they were very heterogeneous.

Nutritional problems identified in the populations covered

Half of the program personnel identified stunting, underweight, acute undernutrition (or acute malnutrition), anemia, overweight, and obesity as the main nutritional problems of their target populations. Only

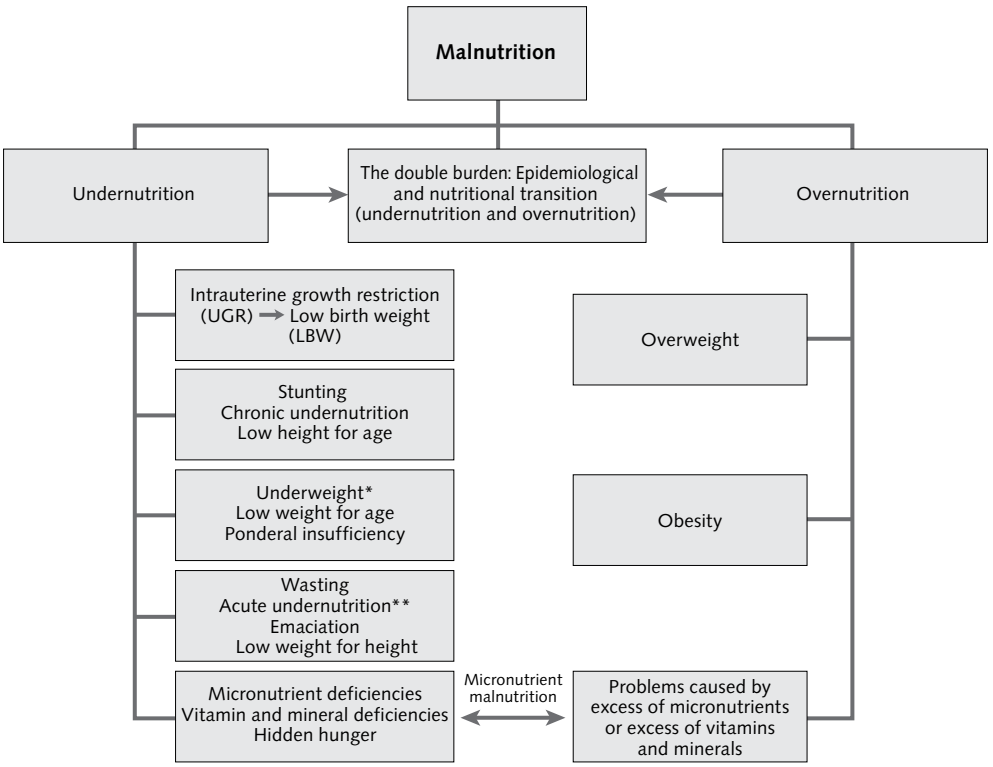

FIG. 1. Malnutrition terminology. Malnutrition is a broad concept that covers both undernutrition and overnutrition. Undernourishment (subnutrition) is another important indicator related to undernutrition that reflects insufficient energy intake to maintain body weight and a healthy life (percentage of the population below the minimal level of food energy intake). Food and Agriculture Organization Hunger Indicator. Millennium Development Goal 1, Target 1.C, 1.9.

* Nutritional indicator MDG 1, Target 1.C, 1.8.

** Commonly used as acute malnutrition, as in severe acute malnutrition (SAM).

Source: A.C. World Food Programme Regional Office for Latin America and the Caribbean

25% identified micronutrient deficiencies (vitamin A, folate, zinc) and low birthweight as nutritional problems existing in their population groups. In total, 72% of the programs were able to identify at least one of the nutritional problems existing in their target populations. There was also high variation among types of programs in knowledge of the main nutritional problems existing in their target populations. Thus, only 27% of the conditional transfer programs and 40% of the HIV programs were able to identify the nutritional problems existing in their populations, compared with 100% of the fortification and productive programs and 89% of the food and nutrition programs.

Only 51% of all the studied programs identified stunting and 45% identified underweight and anemia as the main nutritional problems of their populations. Thirty percent identified acute malnutrition, overweight, and obesity, and less than 25% identified low birthweight and vitamin A, folate, and zinc deficiencies as the main nutritional problems of their populations.

In summary, in the social protection programs not specifically related to nutrition, there was little knowledge of what the nutritional problems were, and there was an obvious need for technical program revision and training.

Why is problem identification and visualization so important?

All published problem-solving methodologies agree that making the problem visible is the first step in problem solution. If the people in the community do not perceive that there is a severe problem, then there is nothing to solve. The process of problem-solving always starts with the perception that a serious problem exists and that this problem could damage the possibilities of people's own children for survival, mental development, good schooling, a good professional career, and higher future productivity [8].

Nutritional objectives and goals

Although a high proportion (76%) of the food and nutrition programs reported their nutritional

objectives, only 15% of the productive and conditional transfer programs did so (chi-square = 9.57, df = 1, p = .002). No program reported its nutritional goals (for example, the expected decrease in the prevalence of stunting to be obtained during the next 5-year period). As a consequence, the lack of a nutritional focus limited the chances of the programs to achieve a nutritional impact at the national scale. This suggests again the need for intensive and extensive training of program personnel, using proved effective methodologies.

Priority actions to be delivered by the programs, coordination, and actions delivered

The highest frequency of actions delivered (66%) was in the cluster of information, communication, and promotion of good health practices. However, only 56% of the programs reported the promotion of exclusive breastfeeding during the first 6 months of life, an action that has been recommended for implementation since the 1980s [7]. In addition, promotion of adequate complementary feeding beginning at 6 months of age and of hygiene education was weak in most programs. Thus, there is an urgent need to update the programs' priority actions.

Coordination was very heterogeneous among the programs, a factor that made the implementation of connected networks a difficult challenge for most countries. This, plus weak public policies and lack of policy continuity contributed to preventing the achievement of nutritional impact at the national scale in at least five of the eight studied countries.

Criteria to define the target population

Contrary to current recommendations, only 30% of the programs focused on children under 2 years of age, the recommended age group to target the window of opportunity, and 42% focused on children under five. Therefore, the ages covered in practice were 3 to 7 years, a fact that precluded the use of the window of opportunity [6, 7].

Seventeen different criteria to define the target population were detected. This fact, plus the lack of standardization procedures for so many criteria, made it very difficult to compare the programs. Interestingly enough, only 12 (11%) of the programs gave priority to indigenous peoples, and only 6 programs (6%) identified Afrodescendant populations.

Furthermore, people living with HIV were not covered by the non-HIV programs, and their care was left entirely to HIV-specific programs. This situation should be corrected because it is contrary to all formal policies of the studied countries as well as to United Nations system policies. No single criterion was used by all of the programs, suggesting the absence of common objectives. The population that was targeted with the highest frequency was pregnant women (45% of the programs).

In conclusion, some inappropriate criteria were used to define the target populations, while important new criteria were not used.

Funding issues

Although several programs reported linkages with their national strategies against poverty, the amount of investment in nutrition in most of the studied countries was relatively low [8, 9], and in these countries the most important funding source was from external cooperating agencies through donations and loans. The present survey data indicated that the public sector funded only 21% of the programs. Loans and donations were responsible for a similar proportion. Combinations of public and private sources with external support funded 41% of the programs.

Usually, it is agreed and expected that all of the social safety programs and social safety networks will be funded by the public sector, since they address human rights. Therefore, from the available information, there appeared to be a displacement of the responsibility for funding of these programs from the state to external cooperating agencies; such funding depends on fluctuations of foreign policy, international pressures, the global economy, external shocks, war, and natural disasters. This apparent displacement of the state funding responsibility observed in most of the studied countries would mean in practice that the human rights to food, life, and health, among other rights, may not be considered a first priority for these states. The consequence could be lower program sustainability.

In summary, in most of the studied countries there were indications of an apparent displacement of funding responsibilities from the state to external cooperating agencies. However, there were strong variations from country to country in the estimated magnitude of this displacement.

Monitoring and evaluation

With few exceptions, there was a lack of well-designed, well-funded, and well-implemented monitoring and evaluation systems. Although some programs compiled nutritional information, there was no evidence that this information was used to reorient the programs toward improvement of the nutritional situation. Very few programs presented satisfactory written evidence of the impact evaluations performed, and this made it impossible to estimate total program coverage, investments made, and nutritional impact.

In summary, in most of the countries, there was poor-quality monitoring and evaluation and very little evidence of use of the available information for better decisions.

Evaluation of nutritional impact and scaling up the programs

Of the 110 programs, only 25 reported an evaluation of nutritional impact, and of these only 7 (6% of the total sample) presented written evidence of this effort. Another group of 21 programs reported they had performed an evaluation of the program's impact on food security, but only 5 (5%) indicated they had the corresponding documentation. Finally, although 15 programs indicated they had evaluated the impact of their program on poverty, only 2 of them submitted written evidence. The data as a whole suggested that nutritional impact evaluation was in practice nonexistent.

No nutritional impact of the programs was detected at the national scale. In a separate analysis, it was found that only two macroeconomic variables measured at the national scale kept a significant association ($p < .05$) with the prevalence of stunting: poverty ($r^2 = 0.55$, direct relationship) and gross national input per capita (GNI PC, $r^2 = 0.64$, inverse relationship; data from 84 countries studied in 2010). Similar relationships were found with wasting and underweight. Countries with larger social investment per capita, lower prevalence of poverty, and excellent national nutritional programs were those with the lowest prevalence of stunting and other forms of undernutrition. Hence, there is a need to have an adequate nutritional dimension in the social programs and to go up to the national scale in order to achieve the Millennium Development Goals.

Program norms and their adequacy

There was a very high variability in the types of norms used by the programs. Only 67 programs reported using any norms. The types of norms used varied from delivery and operations, to health, HIV, and the monitoring system, as well as to norms produced through government decrees and policies, norms for legal agreements, and norms to register the data. It was clear that this is one of the themes that will require careful reflection and analysis in order to produce the necessary improvement.

In summary, program norms were little used, very heterogeneous, or not updated.

Duration of programs

In Guatemala, Honduras, and Nicaragua, the percentage of the studied programs with more than 10 years' duration was low (13% to 39%). In Costa Rica and Panama, the corresponding percentages were high: 60% and 73%, respectively. Only Guatemala and Belize had programs of less than 1 year's duration (chi-square = 19.9, $p = .0000082$). Costa Rica and Panama at present have better nutritional status profiles than Guatemala and Belize. It makes sense that the longer the duration of a program, the longer the exposure of children and mothers to the intervention and the greater the possibilities of intervening during the window of opportunity.

In conclusion, longer programs may produce better nutritional impact. This is a hypothesis to be tested.

Use of the human rights approach

Seventy-seven percent of the 110 programs reported they used the human rights approach as part of their routine operation. However, some of these answers are not necessarily linked to this approach. Only 12% of the programs reported not using this approach, and the rest (11%) did not answer. This value of 77% is a high figure by any standard: 22 years ago, in 1988, one year before the approval of the Child Rights Convention by the UN General Assembly, no program in this or in any other subregion worldwide ventured or dreamed of using this approach. The majority of the programs reported using the human rights approach, taking into account the intercultural perspective, with participation of women as well as participation of all community members.

Nineteen programs (22%) reported that they were implemented under the human rights approach and under the existing pertinent national laws. An additional 22% of the programs reported that care and attention were provided to all people who required the services, without discrimination, and 9% reported that care and attention were targeted toward those groups in situations of major vulnerability.

However, although the majority of the programs reported using the human rights approach and the intercultural perspective, in many of the programs participation was still passive. It was perceived that in day-to-day practice, too many programs did not yet recognize the key importance of an active role of the community members as essential social actors for the joint identification and successful solution of their main nutritional problems. In conclusion, the use of the human rights approach has notably advanced in this subregion. Still, it is highly desirable that it evolve further, far beyond the rhetoric, as an essential, effective, and concrete element, key to the impact, coverage, and sustainability of programs.

In conclusion, the use of the human rights approach was frequent, but it should evolve to a more proactive role.

Delivering micronutrients

Only 50 of the 110 programs studied (45%) delivered some type of micronutrient supplementation. Seventy percent of the food and nutrition programs but only 20% of the HIV, productive, and conditional transfer programs reported delivering micronutrients. These figures are lower than expected. Since the First World

Conference on Hidden Hunger in 1990, the control of micronutrient deficiencies has received high investment from most international agencies working in nutrition. The reasons that this worldwide, very expensive effort has not been implemented by all programs in this subregion are not very well understood.

Therefore, a completely overhauled design will be required in order to improve the control of these deficiencies in Central America and the Dominican Republic. To insert the nutritional dimension into all the programs is an excellent first step in order to design and implement effective and efficient micronutrient delivery systems. In addition, it may be necessary for the whole of the program, particularly management, also to be in very good shape.

In conclusion, a mixed performance was observed in terms of micronutrient delivery.

Human resources

There is an insufficient number of trained and qualified personnel in nutrition-related areas and program management in relation to needs, particularly at the local and community levels. Seventy-two percent of the programs had personnel with university degrees in nutrition or health disciplines; the remaining 28% of programs require intensive training and improvement of the quality of their human resources.

The deadly high-risk areas of Central America

The highest-risk areas were the southwest of Honduras and the extended dry corridor of Guatemala in 2009. These cases were similar to that in the northeast of Brazil in 1986/87, when a 7-year severe drought was complicated by a serious decrease in the poorest families' purchasing power for food, due to a stringent economic adjustment policy [10, 11]. In all cases, there was a lethal symbiosis between economic adjustment policies and a severe drought, which impaired the capacity of the families to obtain food. As always, indigenous peoples were the most deeply affected: low food purchasing power led to depleted food reserves, and mothers stopped gaining weight during pregnancy. As a consequence, more children were born with low birthweight (less than 2.5 kg), and therefore the rates of acute severe malnutrition and infant mortality soared. Later, the slow but precious positive progress of several consecutive decades during which infant and under-five mortality rates kept decreasing was stopped and reversed.

In the meantime, the reserves of the few local health facilities and social protection programs (potable water, water for handwashing, food, antibiotics, oral rehydration salts, vaccines, and other supplies and equipment) went below the minimum safety levels. Along the extended dry corridor, the few existing social programs could not cope with the massive increases in cases of diarrhea and acute severe malnutrition. There was neither water nor soap for handwashing by patients, nurses, and doctors. This resulted in more severe diarrhea, vomiting, dehydration, and infant and child deaths. The rate of stunting increased, and acute, severe malnutrition (wasting) reappeared once again as the death sentence of the indigenous infants and young children living in these remote rural areas [10, 11].

Information: The very expensive, unused key resource

There was very little use of the new nutritional knowledge. Almost no program information was used to improve management and performance, and none was made public, in part because program personnel were very sensitive to any discussion of their performance.

The Millennium Development Goals will not be achieved unless good national nutritional policies are translated into excellent, sustainable nutritional impact programs. At this political moment, these programs seem to be the most feasible means at hand for improving public nutrition.

On the one hand, programs are unanimously recognized as the principal means of translating new knowledge into better nutrition. On the other hand, programs are not attractive matter for wide scientific debate, which is a main means of suggesting better options and improving the programs. This is a clear contradiction. If the breach between nutrition research and excellent nutritional programs becomes wider, more of the brightest and best people will be drawn toward science. Why is this a serious problem? There is no substitute for high-quality human resources nor for a successful program. Both are essential to improve human capital.

Analysis of programs is key to providing information about their performance. At the same time, it is a moral imperative to use the new nutritional knowledge to benefit the people (this is also the only moral justification for scientific research), and for this purpose, excellent programs are required. As a consequence, there should be learning from programs to develop better science as well as learning from better science to obtain excellent, sustained nutritional impact from programs. The decrease in stunting in the Central American subregion and the Dominican Republic must result from the constant use of this new knowledge by programs to benefit the people.

How much will it cost?

Although this is a very difficult issue, there are ways of approximating the estimated order of magnitude of the necessary investment. The cost of the 60 programs that provided this information (in 2009 US dollars) was

$204 million per year, and the median annual cost was $2.7 million, with a very large range of $0.2 million to $11.0 million per program per year [12].

The estimated order of magnitude for the cost of the 110 surveyed programs was $374 million per year, and the number of children under five in the eight countries was 6.2 million. Therefore, the cost per child under five per year was $60.30. There were 2.5 million children under two in the Central American subregion and the Dominican Republic, and the cost per child was $150 per year, a value higher than that found in the Peruvian program [12], where the decrease in stunting, anemia, and vitamin A deficiency cost $116 per child per year. Thus, to decrease stunting would cost $290 million ($116 × 2.5 million children under two), which is almost a quarter (23%) less than the estimated order of magnitude of the cost of the current 110 programs.

The conclusion is that it is feasible and highly desirable to improve the programs' nutritional impact and efficiency.

Why efficiency and efficacy improve when the priority groups are children under two and pregnant women

Efficacy improves notably when the priority groups are children under two and pregnant women because the highest rates of return on social investments are obtained from these groups [6, 7, 13]. The probability of having a nutritional impact on children over 2 years of age is practically zero. The total program cost is less than half when only children under two are covered, because they are 1.3% of the total population, whereas children under five constitute 3.3% of the population (2.5 times more in absolute and in relative numbers).

Is there a true national commitment to prevent undernutrition in the Central American subregion and the Dominican Republic?

The United Nations and other international agencies have contributed to a large extent to the effort to place nutrition as central to human and social development and to the national political and economic agendas. In Costa Rica, Panama, Guatemala, El Salvador, Nicaragua, and Honduras, there existed coordination facilities where all involved sectors met, developed strategies, and implemented plans to prevent undernutrition and micronutrient deficiencies. Their results confirmed the importance of political support and the corresponding budgetary assignment.

In some countries, there exists strong legal support for intersectoral coordination at the top level, where involved sectors have been able to design and implement national strategies and plans to prevent undernutrition and micronutrient deficiencies and where the importance of political and financial support was widely accepted.

Costa Rica, the country with the greatest social investment (particularly in nutrition) in terms of US dollars per capita, had a lower prevalence of stunting. Those countries with lower social investment per capita and with dispersed short-term social protection programs and social protection networks had high prevalence rates of stunting.

Was there a nutritional dimension in the social protection networks?

As mentioned before, in most of Central America and the Dominican Republic, public investment in nutrition was still so low that the main source of funding for the social protection programs and social safety nets was external cooperating agencies and, in some cases, the private sector through donations and loans, a situation found only in the poorest developing countries of Southern Africa and South East Asia, where there is little presence of a well-organized state. Although many social protection programs and social safety nets reported links with the national strategies to reduce poverty, the total average investment assigned to nutrition in Central America and the Dominican Republic was low [8, 9].

An urgent, careful review is required to facilitate the inclusion of nutritional goals, activities, and priorities, as well as to define who is accountable for their nutritional impact. In summary, implementation of an adequate nutritional dimension in all social protection programs and social safety networks is needed, feasible, and highly desirable [12–15].

Addressing the universal basic cause of undernutrition: The ubiquitous poverty factor

With the exception of Costa Rica and Panama, the prevalence of poverty in Central America and the Dominican Republic has continued to be among the highest in the Latin American and the Caribbean region. During the period from 1965 to 2010, when cumulative wealth per capita increased almost five times, the prevalence of poverty was not significantly reduced: half of the families continued to be either poor or extremely poor, as measured by income. About half of the working people continue to survive in the informal economy on very low wages, without health, education, nutrition, and other usual labor benefits.

Therefore, the challenge for most countries in the Central American subregion is how to translate the currently increased wealth per capita into decreased prevalence rates of poverty and undernutrition. The processes necessary to realize such a translation may have to take into account the severe long-term structural asymmetries. There exist serious conflicts of cultures, power, and personal interests that must be

gradually and peacefully resolved in order to decrease poverty and undernutrition. Added to these are the multiple continuing problems produced by too frequent and too severe natural and man-made disasters in this subregion. Fortunately, several countries in the region have already made clear decisions to prioritize their children and their human capital and are backing such determinations with the necessary investment. In addition, most current Central American leaders from different political corners agree that human capital is the resource that countries have to advance human, social, and economic development.

The overall conclusion is that sooner or later, all Central American countries and the Dominican Republic will support social development to improve human capital and will prioritize their children and their people even at the risk of slowing the rate of wealth concentration. In that way, sustainable development will have a new opportunity.

Conclusions

- The establishment of articulated and coherent social protection networks is a challenge yet to be overcome in the Central American subregion and the Dominican Republic. Most of the social protection programs are not prepared to decrease the prevalence of undernutrition.
- There is a very high probability that most social protection programs and social safety nets operating in similar countries worldwide may be in the same situation. This is a hypothesis to be tested.

Recommendations

- Insert the nutritional dimension in all social protection programs and social safety nets. If necessary, suggest re-engineering the program to insert the nutritional dimension and move toward excellent social protection networks that address the various determinants of undernutrition and food insecurity.
- Focus on children under two, pregnant and lactating women, indigenous peoples, and Afrodescendant populations, and ensure that people living with HIV have better access to social protection from the public sector. Disaggregate the program data accordingly. Strengthen the political commitment of most leaders and governments in favor of the priority groups.
- Systematically use the new nutritional knowledge on evidence-based effective nutritional actions, such as exclusive breastfeeding up to 6 months and appropriate complementary feeding, among other proved intersectoral interventions. Use the "learning program cycle": advance from program analysis to new knowledge to better programs, to decreased undernutrition to a new program analysis, new knowledge, and further decrease of undernutrition. Keep this cycle moving deeper and wider.
- Use the human rights approach as the framework for all social protection programs and social safety nets in all stages of the program cycle. Ensure that gender perspective, cultural relevance, and authentic community participation are explicitly considered in the program. Move toward the active participation of the community as the central actors to prevent undernutrition. This will also ensure program sustainability.
- Expand program coverage and the preventive approach, and improve quality of the services. For this purpose, particularly strengthen the capacity of human resources at the local and community levels.
- Revise the criteria used to select the program's geographic location in order to avoid potential duplication of interventions or areas that may have multiple programs for the same target population.
- Resolve at once any technical or financial constraints on monitoring and evaluation and on nutritional surveillance, and incorporate these aspects into the design of the programs. Obtain a baseline to evaluate nutritional impact. Use the information systematically for better decisions.
- Develop and sustain an adequate system for procurement, storage, and distribution of inputs and supplies, including food (donated, imported, and locally produced), ensuring their quality—especially of the fortified complementary foods for children from 6 to 24 months—and the continuous and timely delivery to the target population and the proper functioning of the programs.
- Include the program's sustainability from its initial design stage and gradually increase the allocation of the public budget to nutrition in a framework of state policies—that exceed government periods—looking to ensure sustainability of interventions and their impact in the population, gradually decreasing external economic dependency.
- For HIV-specific programs: review the programs and plans to reduce the HIV epidemic through an intersectoral approach to ensure the incorporation of food and nutrition components involving people living with HIV in the design, implementation, and evaluation of programs. Include diagnosis and nutritional counseling integrated with counseling for treatment adherence. Ensure the right of HIV-infected persons to access other social programs and link them together to ensure appropriate targeting, referral systems, treatment, and nutritional attention. Educate these persons and program personnel about their rights and the services available to them.
- For conditional transfer programs (including cash, in kind, vouchers, and others): in order to have a nutritional impact, review or change the design and

operation of these programs, incorporating the specific objectives and other components of the nutritional dimension for improving family nutrition, especially of children under two and pregnant and lactating women. Revise the use of the conditionality. It may be opposite to the human rights principles: the access to food, health, and education lasts only for the period when the families are covered. In addition, the following topics should be revised: targeting criteria and mechanisms, number of hours that the benefited people should spend (particularly the women), amount and type of the transfer, delivery mechanisms, quality of supplies and services delivered, and intersectoral coordination.

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