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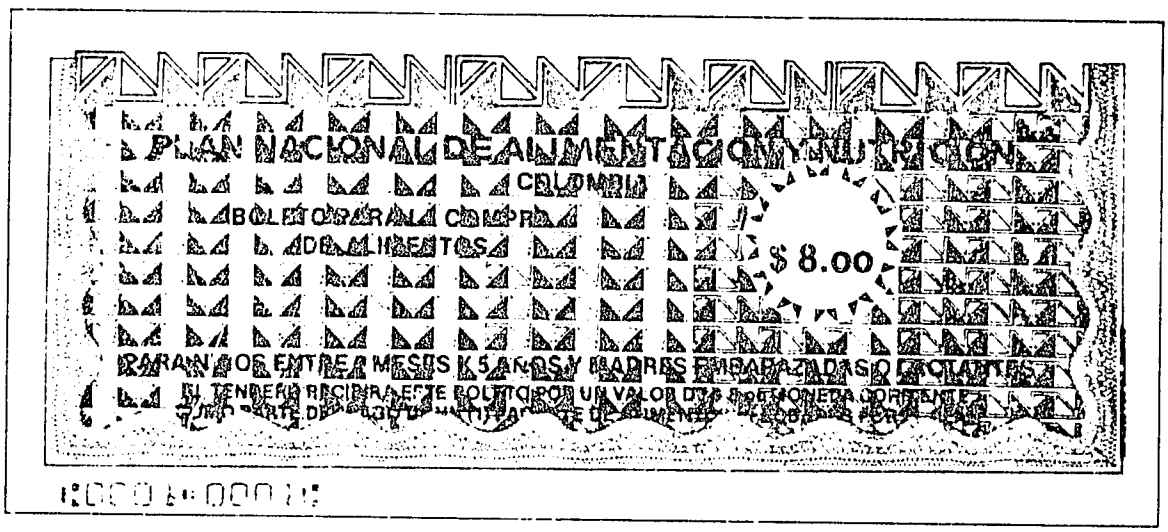
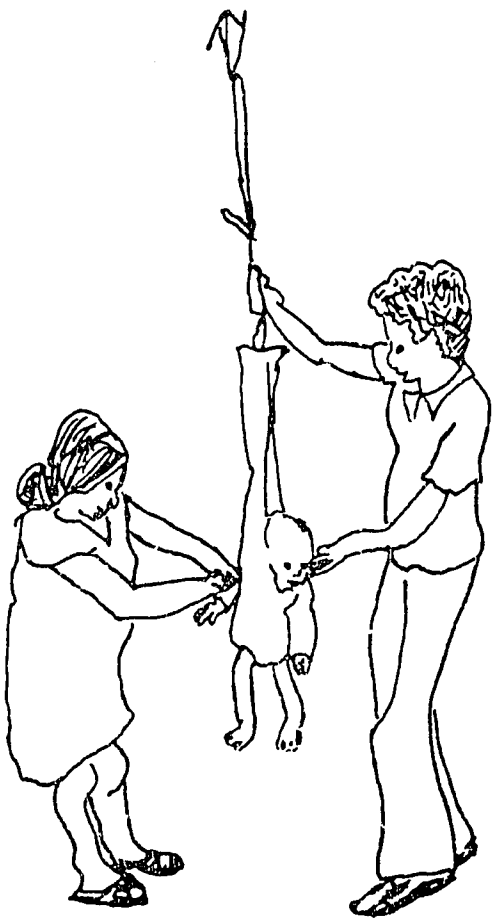
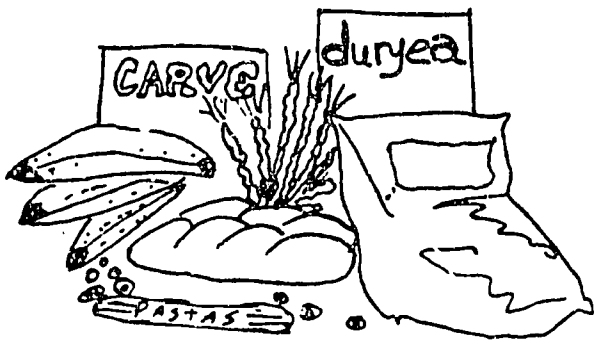
PAN

A DESCRIPTION OF THE COLOMBIAN NATIONAL NUTRITION PROGRAM







Prepared by
Thomas G. Sanders
for
U.S. Agency for
International
Development
Washington, D.C.
July 1980

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Preface

In recent years, a number of countries have sought to move from the planning and pilot stage of nutrition program development to large scale application and to employ innovative approaches as elements of such programs. The Colombia national nutrition program, PAN, is an example of such an effort.

This description has been prepared in the hope that it will be stimulating to those interested in developing or modifying nutrition interventions and in considering, as part of this process, the program or program elements of other countries that may be applicable. The intention has been to provide a readable description rather than an evaluation or independent analysis. Available evaluative information and a presentation of what observers consider to be the advantages and disadvantages of the program approach are also included.

This piece has been prepared by Dr. Thomas Sanders, an Associate of the American Universities Field Staff.

Martin J. Forman
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SUMMARY

The Government of Colombia is in the process of implementing a massive new integrated nutrition program directed to the seven and one-half million people residing in Colombia's poorest communities. As part of this approach, the Colombians are also using several novel and promising techniques. This effort represents a contribution to nutrition programming which should be of special interest to persons and institutions responsible for developing nutrition programs elsewhere.

Perhaps most distinctive is the program's use of food coupons. To reach preschool children and pregnant and lactating women, the Colombians have departed from the direct distribution of free supplementary food and instead provide coupons for special food supplements. These are being made available in small retail stores located in the country's rural and urban areas. By taking advantage of this existing network, the program is able to go beyond the reach of normal food distribution channels. The intention is also to eliminate the complicated logistics of direct feeding, and to draw instead on the resources of the private sector. Participation is encouraged by making available a large variety of brand name foods from which to choose [18 at present].

The coupons, representing 40 to 60 percent of the value of the supplements, are provided to families with preschool children or pregnant and lactating women. The products include weaning foods for children under two and a variety of other items for children and mothers such as soy-based meat substitute mixes, enriched noodles, flour, and even cookies. The number of coupons allocated to recipients is determined by studies of the average deficit in proteins and calories in each target group and the consumption of the supplements required to meet the deficit.

The coupon program is one element of a much more comprehensive approach. The aim is to confront the gamut of factors contributing to malnutrition. Agencies in health, agriculture, and education have been brought together under the direction of a central planning staff. A network of primary health care forms the backbone of the approach. This involves the renovation or construction of health centers and recruitment and training of staff. Provision of direct health services is being supplemented by a program to increase availability of potable water and to introduce latrines. Complementing the coupon activity is a large direct feeding program which will be confined to schools alone as the coupon approach for young children is extended.

On the supply side, the program seeks to increase family consumption of agricultural and livestock products through the promotion of school demonstration gardens, community animal breeding centers, and family vegetable plots.

The provision of these various services is being reinforced by a nutrition education program which tries both to reach the general population and to sensitize a variety of change agents. It includes mass media, person-to-person instruction for the family, special training for medical personnel, orientation seminars for community leaders, government agency personnel, and others. In addition, textbook curricula at all educational levels will be revised to emphasize nutrition.

Perhaps the critical element in the Colombian nutrition program is the local health aide, called a promotora *She brings to this large centrally planned effort a personal link with the beneficiaries. Her participation permits the program to go beyond dependence on services offered at a center and to reach out to the broader population in her area. She makes the initial contact, informing families about the program. She provides simple health care, makes health referrals, gives instruction in use of coupon foods, and promotes better health and sanitation practices. The* promotora *also seeks to interest local communities in participating in the programs of potable water system and latrine construction. And finally, at least in a newer approach which the Colombians hope to extend gradually, she performs an important monthly home follow-up which includes weighing the participating children to insure that individuals once entered in the program utilize it effectively.*

What is the relevance of this approach for possible replication elsewhere? Most experts believe that sufficient program experience has not yet been gained to make firm judgments. There are, however, some encouraging signs.

Recent evaluation indicates that the coupon approach, when combined with effective promotora *action, can produce significant results. In a recent study of 1,700 participating children where the* promotora *is providing the monthly follow-up weighing, the incidence of serious malnutrition after 4 months decreased from 21 percent to 10 percent. Further, the program has a high rate of participation among the eligible population in the area and very good continuity of participation. While these results need to be confirmed and replicated, they do suggest that the coupon approach may be an important alternative to other forms of supplementation. Moreover, the existence of small retail outlets of some type, in nearly all communities in most countries, suggests the approach could be broadly applicable, although more experience with the various aspects of the approach is clearly needed.*

Overall, the Colombian experience suggests that certain difficulties are inherent in launching an effort of this complexity—in this case, problems in coordination and in eliciting collaborative effort among old-line agencies. The difficulties of gearing up a new program, securing new personnel and equipment, even working out a satisfactory means of cash flow among so many agencies and the coordinating body, have all been hurdles.

Nevertheless, in four years of operation the program has achieved what observers feel to be a permanent momentum. PAN is now institutionalized within the entities responsible for the execution of its various components. Coverage, although not even for all components, is already extensive, and a national nutritional consciousness is beginning to develop. Moreover, the government has maintained a continuing high budgetary commitment despite changes in administration. On balance, therefore, the Colombian experience would appear significant both in making the attempt to mount a multisectoral program of this magnitude and in showing such an approach to be workable, given sufficient government commitment. Both the general approach and its program specifics merit the attention of the nutrition programmer.

The Background of the New Program

In the years since World War II, though Colombia has undergone impressive overall industrial and agricultural growth, an important segment of its population is still not adequately nourished. Studies between 1963 and 1968 revealed that in a sample of 4,000 children, 67 percent suffered from malnutrition, including 19 percent second degree and 3 percent third degree malnutrition.[1]

More recent research undertaken in 1979 in the area participating in the first phase of the Food and Nutrition Plan clarified some of the principal characteristics of the affected population.[2] Food insufficiency begins early in life: data on diet for young children indicate a sparsity of appropriate foods for the age group; fully one-fifth of the children in the sample did not receive maternal milk after six months, and over a half after a year. Moreover, inadequate sanitation promotes diseases that impair the capacity to utilize nutrients: over a fourth had diarrhea during the week before the survey, and 55 percent were recently ill from influenza or comparable viral infections. Only 18.3 percent of the families drank water from a sanitary source, and of the others over half did not treat the water to improve its quality. Two-thirds had inadequate toilet facilities, and 70 percent had animals within the house. Adults, especially the father, consumed more than their share of calories and proteins, while preschool children and pregnant or lactating women received less than their fair proportion.

Medical, public health, and nutritional leaders in Colombia have long been active in studies and programs designed to improve the country's nutritional status. In 1954, with foods donated from the United States through CARE and CARITAS, the first of several direct feeding programs was established and administered through the schools and public health system, eventually reaching over one million beneficiaries. These programs were generally concentrated in urban areas, however, and the country lacked a plan for an overall approach to the alleviation of malnutrition. Concerned Colombians still sought means to undertake a coordinated, genuinely nationwide attack on what they perceived to be a major problem.

Several factors led to the formulation of a new, multisectoral approach early in the 1970s:

1. Various studies demonstrated that while direct feeding could help reduce malnutrition, the causes lay in multiple deficiencies in many aspects of community and family life. Thus policy changes in agriculture, health, education, and other sectors could vitally affect nutrition;

2. There was a growing international consensus that the focus of development should be more directly on social problems like education, health, housing, and nutrition;

3. The 1972-1973 world grain shortage led the United States government and other donors to inform Colombia that henceforth they would concentrate aid on poorer countries with worse problems of nutrition and less food production potential. This decision in the developed countries coincided with a desire by Colombian leaders to increase their autonomy by overcoming dependence on outside sources to feed their population;

4. Colombian planners wanted to reach the neediest segments among the entire population, rural or urban.

Colombian planners concluded that the best means of insuring that low-income families would have access to nutritious foods was to provide a subsidy, specifically with food coupons. This plan had a double appeal: not only would food coupons assure increased consumption of nutritious foods by those who were most in need, but increased demand would also stimulate production of those foods by Colombian farmers and promote the growth of agroindustries to process them.

Discussions about a new program took institutional form in 1972 when the government created a National Committee on Food and Nutrition Policy. The Committee was itself multisectoral, that is, composed of high-ranking representatives from several ministries and institutions involved in health, agriculture, education, labor, and economic planning. In 1973, Colombian representatives presented plans for a compre-

1. DNP - PAN Nutricion, Bogota 1979, p. 28
2. DNP - PAN Informe, 1977.

hensive program to a meeting of the Andean Pact countries in Lima, and subsequently to Colombian specialists in a variety of fields at a national nutrition meeting in the city of Palmira. Called PAN (the acronym stands for Plan of Food and Nutrition and means "bread" in Spanish), the program was formally launched in 1975 as part of new President Alfonso Lopez Michelsen's emphasis on redistribution of resources and incomes.

The Multisectoral Approach

Although a number of countries are instituting multisectoral nutrition programs, Colombia is exceptional in the wide diversity of components it has incorporated into the strategy of PAN. Implementation requires coordination of activities from the national to the local level in such dissimilar sectors as health, agriculture, education, and economic planning, but it has the positive effect of creating a nutrition focus throughout government and a widespread awareness of its importance. As various ministries and autonomous agencies reorient specific activities according to the PAN philosophy, participants think of them not as isolated programs but as essential aspects of the new national determination to attack malnutrition in all its dimensions.

The PAN program is indeed comprehensive, focusing attention on all areas which are directly relevant to improving nutrition:

1. Expansion and improvement of local health services;

2. Construction of rural and urban potable water supply systems and sanitation facilities;

3. Production of low-cost foods of high nutritional value.

4. Use of food coupons to subsidize distribution of these foods;

5. Continuation of direct feeding projects;

6. Promotion of increased consumption through school demonstration gardens, family vegetable plots, and community stock-breeding centers;

7. Nutrition education;

8. Research and evaluation as support activities for the central components of the program.

PAN is still in the process of implanting all its programs, but the approach can best be apprehended by considering how PAN will affect a typical family living in a poor rural community and participating in all its components. As a rule, the family members not only consume insufficient calories and proteins, but their malnourished state is also aggravated by inadequate health and sanitary facilities. The program aims at meeting both types of need by specific action to provide effective health services and additional food at the local level.

The family's channel to the nutrition program is the *promotora*, a local woman whose responsibility is to improve health awareness through personal family contacts, especially with mothers. In addition to her health responsibilities, she provides information and encourages the adoption of measures aimed at improving nutrition. These measures include use of food coupons, by which expectant or nursing mothers can purchase special foods designed to raise their nutritional status and that of their younger children (six months to five years). (Older children in the family may participate in direct feeding programs at school.) The *promotora* also keeps records on the family's nutritional status and gives instruction on diet, breast-feeding, treatment of diarrhea, hygiene, and other means to improve their well-being.

PAN also influences family nutrition by a variety of other direct and indirect means:

- It provides community health, sanitation, and water services, all coordinated within the Ministry of Health and Regional Health Offices.

- Community health post personnel, auxiliary nurse, and a medical doctor are trained to detect and treat nutrition-related diseases.

- The family is encouraged and aided to supplement the food it can buy from its own income and the coupons by cultivating a home vegetable garden and fruit trees, and by raising pigs or other small animals.

- School children learn about nutrition from their instructors, from textbooks, and by working in the school's demonstration garden.

- Twice each year, at harvest time, the community has special field days featuring food from the

demonstration garden and presentations on nutrition.

- Radio, television, and community leaders, who attend special courses, all help educate the public on the importance of nutrition and the relationship to it of proper health and sanitation.

PAN is currently in the first phase of institutionalizing its program. During the period from 1975 to 1981, the program is being established in 10 of the country's 22 states (*departamentos*), plus Bogotá, the capital. After 1981, the Colombian government plans to expand PAN to the remaining twelve states, and to also increase coverage in the initial program area, mainly through expansion in urban centers.

The Colombian government is providing approximately $60 million in direct funds. USAID is assisting with a $6 million loan to be used in Cauca, Huila, and Norte de Santander, while the World Bank has lent $25 million for projects in the other seven states and Bogotá. Additional technical assistance and related inputs are being provided by the UNDP, UNICEF, CARE, the Pan American Health Organization, and the government of the Netherlands. The overall Colombian budgetary allocation for the first phase, including complementary activities, is $270 million.

One of the most innovative characteristics of the program, which provides a framework for the multisectoral approach, is its method of determining the target population. Typically, social services, including nutrition, are provided through existing facilities, such as health posts. But these are often lacking, or inadequate, in the poorest and most malnourished communities. The alternative might be selection of the neediest families on an individual basis, but this is both costly and difficult to organize for delivery of comprehensive services. PAN chose instead to begin the selection process at the township (*municipio*) level. Among the 930 townships in Colombia, it identified the poorest 30 percent, using three criteria: average family income, educational level, and access to such public services as water, sewage, health care, and energy. The ten states chosen to participate in the first phase of the program contained the highest proportion of poorer *municipios*. Determination of target population in the cities was modified somewhat. Since normally only certain residential areas (*barrios*) are really poor, PAN used the same criteria to separate the poorest 30 percent from the more affluent sections of the city. In rural townships, on the other hand, the Colombian planners assumed that nearly everyone is poor, and thus made no distinction between eligible and noneligible areas or families.

The method does not presume to reach all the malnourished population, at least in the first stage. For example, the "territories" of Colombia, which contain about 3 percent of the population, were not included. Three states with exceptional poverty and malnutrition, Choco, Guajira, and Meta, are so deficient in communications and infrastructure that activity there is being postponed until the second stage, after 1981. This selection process also excludes the poor who happen to live in (a) the 70 percent of the *municipios* that are more affluent overall, and (b) the *municipios* that fall among the 30 percent poorest, but are in states not participating in the first phase.

The Colombians believe the method they have chosen is sound and effectively captures a substantial proportion of the most malnourished part of the population. Moreover, by concentrating on communities, it establishes responsibility at a definite organizational level and sets administratively and financially feasible goals for improving food production, health, and sanitation, elements that are as essential to long-term success in eliminating malnutrition as food supplements are in the short run.

The Health Sector and Nutrition

The institutional keystone underlying other aspects of PAN is expansion and improvement of the primary or local system of health care. As in many other developing countries, Colombia's public health services were initiated in major urban areas where both population and medical personnel are concentrated. With the passage of time, facilities have been gradually extended to small cities and towns, usually those of easiest access; but complete coverage of the population is inhibited by budget limitations, the large numbers of *municipios*, and the fact that nearly 40 percent of the population lives in rural areas. Public health posts offer their services free or at a nominal cost, but distance and

inadequate transportation place them out of reach of many rural families.

Given the close relationship between health care and nutrition, PAN's developers assumed from the beginning they could not reach the target population without expanding facilities and personnel on the primary level. Otherwise, there would be no means of establishing contact with the beneficiaries, monitoring their nutrition status, and providing appropriate assistance such as food supplements.

At the heart of the PAN program is the *promotora*, the local health promoter who provides the chief contact between individual recipients and the PAN system. The *promotora* is a young woman from a rural area, called in Colombia a *vereda*, who must have at least four years of formal education. As preparation for her work, she receives a ten-week course in basic health and hygiene, plus occasional refresher and supplementary courses. As her title indicates, the *promotora* is a full-time worker who tries to promote health consciousness and use of the health post. In addition to treating minor illnesses and giving injections, she gathers statistics on the population she attends and communicates basic information on hygiene, family planning, child care, and now, under PAN, the various ways in which nutrition can be improved. Ideally a *promotora* is responsible for 200 families, but especially in rural areas where houses are dispersed, experience has demonstrated that she can usually serve at most half that amount.

A promotora *weighs a child while mother assists* (Thomas G. Sanders).

As part of PAN, the *promotoras* receive general instruction in nutrition, including the multisectoral dimensions and program philosophy, and in certain pilot communities they weigh children in the home and fill out the forms for evaluating the nutritional status of the children. They are responsible for explaining to expectant and actual mothers the new system of food supplements through coupons and for making sure they go to the health post to get them on assigned days. In addition, they are expected to provide information on a wide range of matters related to nutrition, such as breast feeding, parasites, and treatment of diarrhea, diet, home sanitation, food preparation and conservation, and the disposal of wastes.

The next stage in the system is the local health post, which serves an urban *barrio* or is located in a small town, perhaps the principal one in a *municipio*. The health post is normally staffed by two auxiliary nurses, but it also serves as the supervisory center for six health promoters on the next level who are in contact with a total of 6,000 to 8,000 people. As part of PAN, the health post distributes food coupons and maintains records on the health status of participants. In addition to the full-time auxiliaries, the health post is attended for several hours a week by a physician, usually a recent graduate fulfilling his obligation to provide a year of public service. The orientation at this level is both curative and preventive.

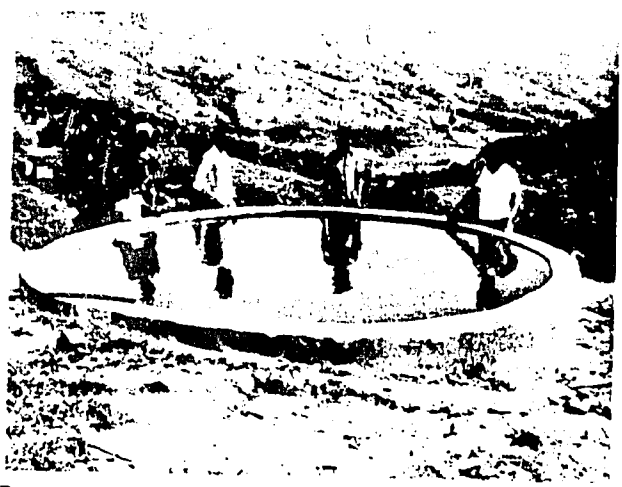
On the highest level is an urban hospital, with specialists as well as general physicians who can provide diversified forms of health care. The hospital treats patients from small towns and rural areas who suffer from relatively serious

medical problems. Activity at the hospital level is largely curative, not preventive. Children suffering from severe malnutrition or related problems requiring hospitalization, for example, would receive treatment here.

As part of its emphasis on the primary health care system, the PAN strategy includes the construction of community water systems (or, in some areas, water filters for home use) and family latrines. Where possible, these activities are begun at approximately the same time as the health post is established or expanded. Their importance is evident: numerous studies indicate that malnutrition is aggravated by the inability of children, especially, to utilize food because they suffer from diarrhea, parasites, and other infections caused by impure water or inadequate sanitation. It is estimated that about 50 percent of communicable diseases and 14 percent of total deaths in Colombia are associated with impure water. A complete nutrition strategy, consequently, requires provision of sanitary water to all of the target population.

Initiative and responsibility for the construction of water systems rest with the National Institute of Health, a decentralized agency within the Ministry of Health. Normally, INS allocates funds after screening communities, using such criteria as the level of citizens' interest, available water sources, and the capacity of the local government to maintain the system. Just as the primary health system requires community participation through the *promotoras*, the INS expects beneficiaries to contribute about 10 percent of the cost of the project, plus labor. The cost of water systems in Colombia varies greatly, however, depending on the distance from the source, the concentration or dispersion of the families, and whether the water is transmitted by pump or gravity. The local government, called the "*junta* of communal action," is responsible for collecting users' fees and applying them to maintenance.

The Department of Environmental Sanitation, also within the Ministry of Health, supervises waste disposal projects, generally meaning construction of family latrines that resemble a modern toilet fixture and can be flushed with a gallon of water. The cost to PAN is kept at a moderate level (just over $25) because the beneficiaries furnish the labor to dig the pit, install the fixture, and build a shelter. Where water is not available in the home, pit latrines are used instead.



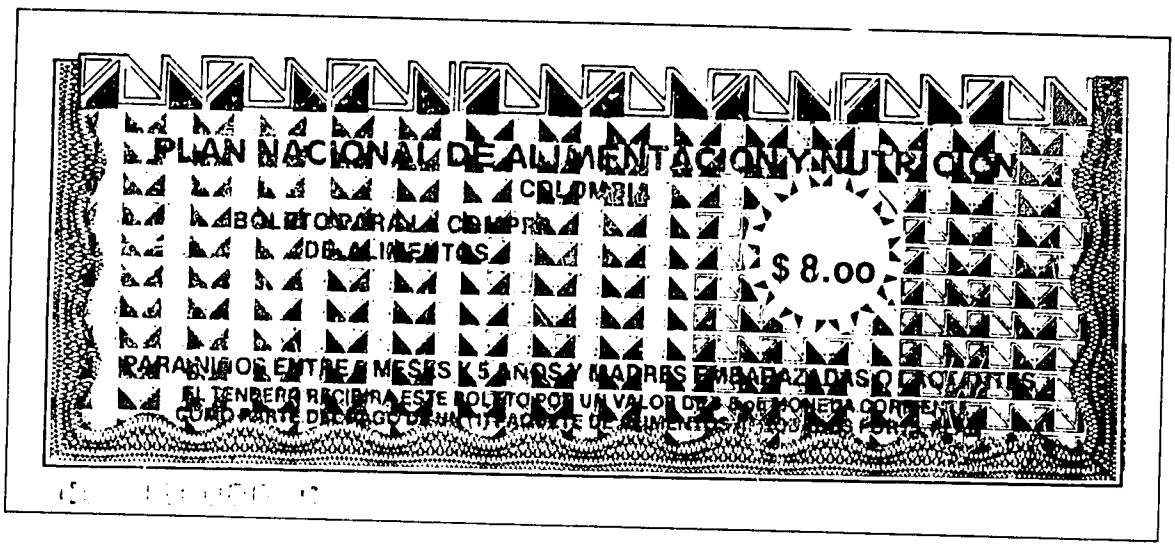
Reservoir for rural potable water supply. (Thomas G. Sanders).

Owing to budget limitations, however, many participants in other PAN programs will not benefit from community water and waste disposal projects for quite some time. Only about 40 percent of the rural population served by health posts, for example, are scheduled to receive water in the 1975-1981 phase. PAN personnel are critical of the delay, because without water and sanitation the maximum effect of the other components of the program is reduced. After 1981, however, these services will continue to be expanded, although at a slower rate than the health care and nutrition aspects of PAN.

Given the limited coverage existing budget permits in these two areas, the role of the *promotora* is doubly important. On the one hand, the information she provides on hygiene helps compensate for the inadequacies of the present situation, while on the other her effectiveness in stimulating awareness of the value of good water and sanitation can influence political leaders and families in her zone to take action toward having them included in future planning.

The Food Distribution System by Coupons

Perhaps the most interesting and innovative feature of the PAN strategy is the food distribution system. Recipients are issued coupons that can be exchanged in part payment for highly nutritious foods. The coupon system, Colombian



Food coupon worth 8 pesos.

planners believe, has many advantages over direct feeding programs. First, it has the potential to reach beyond normal supplementary food distribution channels by making supplements available through small retail outlets. Second, it eliminates the extensive logistics of direct feeding, which may also reduce costs. Third, it encourages beneficiary participation by making available a large variety of brand name foods. Finally, it provides a stimulus for the private sector to develop and produce new brands for the market the coupons help create.

The coupons were originally issued in two categories, distinguished by color: the green ones were to be used to buy food for children under two years of age; the rose ones for children ween two and five and pregnant or lactating women. Both types of coupons began with a fixed value of 3.5 Colombian pesos, which was later increased to 6 pesos (about 15 U.S. cents in mid-1979) as an inflation adjustment. Now, in part to simplify administration, there is only one kind of coupon for everyone, with a value of 8 pesos.

Keeping in mind the structure of PAN that has been described, coupons may be distributed to all pregnant and lactating women and children under five who live in the selected *municipios* of the ten states and Bogotá covered by the first phase.

The *promotoras*, being local women, are ideally placed to gain the confidence of potential beneficiaries. In visiting the families within their zones of responsibility, the *promotoras* locate the women and children who fit the relevant categories, explain the advantages of the food coupon program for their health and nutrition, and enlist their participation.

The network for distributing the food is local stores, *tiendas*, which are usually small but far more widespread and easier of access than any public institution in Colombia. With each coupon, a woman can go to a local store and use it in partial payment for a package of any of several products, all of which have exceptional nutritive value. Eligible foods are identified by a stamp that says, "This product is approved by

A woman exchanges coupon at a local tienda *(PAN-DNP).*

the National Food and Nutrition Plan," and by the PAN symbol on the package. The products include weaning foods, several soy-based meat-substitute mixes, enriched noodles, flour and rice, and even special cookies. The variety is important because the program aims at providing foods that people will want to choose. In fact, utilization of the coupons has increased as more foods have appeared on the market. Their names suggest the content: Colombihariana (Colombia flour), Carve and Carnavit (*carne*-meat, *vit* suggests vitamins), Fiesta (Party) cookies. Most products are offered in 250-gram packages.

The recipients must pay part of the purchase price, since the coupons represent only 40-60 percent of the value of the item, depending on its cost. PAN officials insist this is an important way to avoid the connotation of paternalism. The coupons are a clear benefit to the consumer; they subsidize the cost of food among those who can least afford to pay and the variety of products allow for adaptation into any diet.

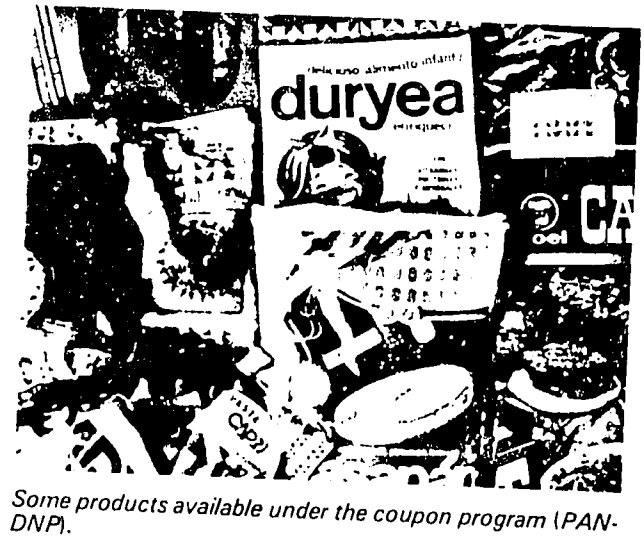
A woman normally acquires the coupons at a local health post once a month on an assigned date. In addition, where she resides in a community so distant from the health post as to make a monthly trip impractical, a newer approach is being tried on a pilot basis. The auxiliary nurse visits the outlying community and, working with the *promotora*, distributes the coupons directly to the mother.

The number of coupons has been determined by studies of the average deficit in proteins and calories in each target group and the required consumption of the supplements to meet the deficit. Usually women receive 24 coupons monthly, and 12 for each child between 6 and 59 months. If properly used, the coupons can provide 24.3 percent of calorie and 77 percent of protein requirements for the women; 39.5 percent and 85 percent for the children under two; and 30 percent and 92 percent for the children two to five.

If in an average family there is a mother and two children, the family would receive 48 coupons monthly. At the beginning of 1980, this totaled 384 pesos, or the equivalent of about $9.50. A study early in 1979 indicated that the subsidy represented by the coupons amounted to approximately 9 percent of the expenditure on food for a typical family participating in PAN. On the assumption that the nutrition program is a shift of emphasis in public policy to provide greater benefits to the poorest segments of the population, the coupons can be seen as a form of income redistribution or even negative taxation.

The coupons are printed by a government agency, the Institute for Industrial Promotion (IFI), then passed to selected private banks which distribute them to their branches throughout the country. There the coupons are held in trust for the regional section of the Ministry of Health, whose auditor is authorized to withdraw them from the bank and distribute them to each health post for the eligible recipients in that zone. From the post, the coupons are given directly to the beneficiary, or, in some pilot areas, by way of the auxiliary when the health post is not easily accessible.

Recipients can only apply the coupons toward the purchase of the foods authorized by PAN. The products themselves have been developed and produced by the private sector, some as a direct response to the demand created by the food coupons, although the Institute of Technological Investigation (ITT) has also contributed significantly. When the program was first getting under way, a number of manufacturers were asked to submit foods for PAN approval, but only one showed interest and did so. As the system has become institutionalized and the demand more clearly defined, other manufacturers have



Some products available under the coupon program (PAN-DNP).

responded. To encourage proliferation of new items, producers also receive preference from the government in credit, technical assistance, importation of raw materials, and other essentials to develop and process these foods.

In addition to processed foods produced by the private sector, PAN originally hoped to encourage small-farmer production of certain food items that could be purchased with food stamps. To achieve this objective, PAN was institutionally linked to the government program for Integrated Rural Development, which provides infrastructure, credit, and technical assistance to the small holders. It soon became evident, however, that the raw materials for enriched foods—soybeans, for example—were not produced by smallholders, but rather by larger, commercial farmers or, in some instances, were even imported.

PAN never lost its original objective, however, and by 1979 had taken new and interesting steps in that direction. The most important was to authorize coupon purchase of *panela*, a form of sugar that is normally produced and processed into cakes by small operators rather than on plantations. Approval of *panela* was based on the recognition that many Colombians are as much in need of calories as they are of proteins, and *panela* is the least expensive source of calories. In a second effort of this type, one of the enriched-food processors buys corn for the flour in his product from small farmers in Cauca state.

By enlisting private-sector participation in the production, delivery, and sale of the food, PAN avoids the complex administrative and distributive problems that are associated with direct feeding programs. Although transportation and profits for the producer and seller are included in the cost of the product, PAN officials affirm that efficiency is much greater and that the cost to the consumer is lower than by the other alternative.

Getting the program under way naturally requires coordination. In each community served by PAN, the merchants must be approached and the food coupon system explained. Invariably some do not want to participate, but most do. As time goes by, the fact that an appreciable portion of the demand for food in a community is being channeled through the coupons provides a stimulus for more merchants to join.

The mode of redeeming the coupons is designed to guarantee the merchant easy payment and to prevent abuse. The merchant exchanges the coupons in payment for a new supply of the enriched foods from the distributor. The coupons go from the distributor (who may be a wholesaler or the manufacturer's representative) back to the producers, who are the only persons authorized to take them to the banks and redeem them for money. The accompanying chart diagrams the complete coupon flow.

A number of problems have emerged in the coupon system, although some of them have already been resolved:

1. The food coupon component of PAN developed more slowly than expected. With the gradual construction of health posts and the initiation of activities by new *promotoras*, however, distribution of food coupons has picked up momentum. At the beginning of 1980, about 100,000 people were participating, and by 1981, 250,000 are expected to be involved.

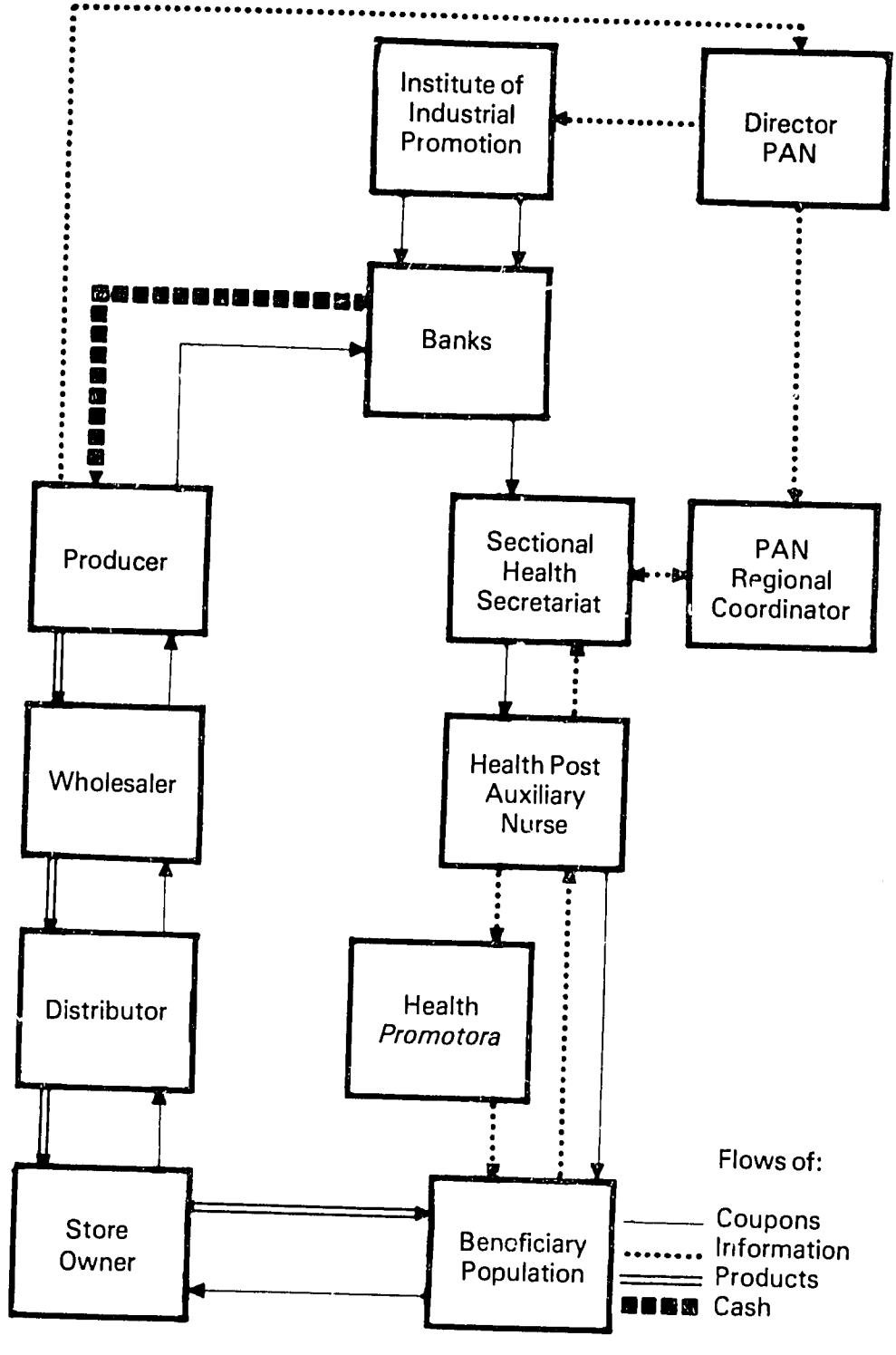
2. Because of the delay, food producers were uncertain about whether and how the program would work, the method of redeeming the coupons, and the level of demand. Although a few enriched foods already existed on the market, the development of new products had to await clarification of these matters. As PAN officials anticipated, increased demand stimulated processors to enter the market with new items. The present supply (18 products) is considered satisfactory and expected to increase.

3. Many communities have experienced difficulties in the delivery of foods, usually owing to isolation or poor communications. In certain areas, the paucity of population has inhibited manufacturers and distributors from going to the expense of trying to supply them.

4. The coupons are constantly losing value because of inflation. As of mid-July 1979, the coupon had not been adjusted in over a year, and for certain items it had reached the minimum acceptable 40 percent of the value. The coupon's value was increased from 6 to 8 pesos in early 1980.

5. Individuals often do not use some of the coupons that are distributed to them. In the early stages this seemed to be due chiefly to irregu-

FOOD COUPON SYSTEM FLOW CHART



larity of product distribution by the Ministry of Health, which has now been greatly improved, and the availability of other foods. Since the use of the coupons is much higher in urban than in rural zones, it is apparent that in the countryside people often do not use the coupons if other foods are available, for example, after harvest. Where coupons are not used, it is possible that some are being sold, though the extent of this practice is hard to determine.

6. Although the foods purchased with coupons are meant for small children and mothers, other members of the family may also be eating them. When this happens, the impact of the nutritional supplement on the neediest groups is reduced.

7. Finally, some misuse of the coupons by the storekeepers occurs, such as sales of PAN products for coupons alone, without a cash contribution, or the exchange of non-PAN products for the coupons. Progress in overcoming these problems depends on education of both users and storekeepers.

Despite these almost inevitable problems in implementing a new program, Colombians are pleased with their progress in overcoming them and anticipate that in time all of them will be solved.

Direct Feeding Programs

Although the food coupons represent the most important innovation in the delivery system of PAN, the previous direct feeding programs are being maintained by the Colombian Institute of Family Welfare to assure that certain groups not covered by the coupons are adequately nourished. The most important beneficiaries are the mothers and small children living in states or communities not included in phase one, but who can receive the food supplements through health posts or child care centers. Another key set of beneficiaries is school children; since food coupons are meant for preschoolers, these youngsters might be malnourished without lunch or a snack during school hours.

When a community begins to use the coupons, any program of food distribution that previously covered mothers or preschool children through health posts or child care centers is suspended. However, school feeding programs will continue as a complement to the nutritional programs of PAN. Although some 100,000 people used food coupons by early 1980, there are more than one million individuals participating in direct feeding programs. This is the largest item in the budget for the first phase of PAN, with phase out of international donor participation completed in 1979.

The Colombians expect that as PAN is extended to the rest of the country, the relative proportion of food coupon users will increase in comparison with those in direct feeding programs. Even with progressively greater acceptance of coupons as the principal vehicle for nutritional improvement in Colombia, however, population increase, estimated at about 2.8 percent per year, will insure growth in the number of school children and a continuing sizable program of direct feeding.

Food Production

Another unusual aspect of PAN is the attempt to increase food production and consumption for poor families through a variety of means, as in its programs for planting family and school gardens in rural communities and for increasing domestic production of poultry and livestock. The Colombian government has conducted similar programs in the past, with mixed results, but linking these objectives to other components of PAN should strengthen the potential for achievement. In the first phase, PAN hopes to secure participation of about 35,000 families by 1981.

In its effort to stimulate small-scale domestic production, PAN makes use of the various Colombian agencies normally associated with agriculture, including the Agrarian Bank and the Colombian Agricultural and Livestock Institute (ICA), which does research and provides extension services. These cooperate in selecting community centers for demonstration projects reproducing seeds, cultivating plants, and in keeping and breeding poultry and livestock. They also help establish the school gardens under the administration of rural teachers.

Schoolteachers receive special instruction in growing vegetables and legumes, and the school is furnished tools and essential inputs like seeds and fertilizer. But the most important objective is to affect the children, the adults of the future.

They learn about nutrition and especially the value of eating vegetables, in the expectation that traditional diets based on carbohydrates can be diversified. Twice each year, during harvest, school children, parents, and agricultural officials suspend conventional classes and share a meal from the products of the school garden and present a special program dealing with nutrition.

To encourage family gardens, the government, through PAN, provides technical assistance and subsidizes 50 percent of the cost for seeds and other inputs in the first year and 25 percent in the second year. Loans for the balance and for subsequent years are provided at interest rates that are lower than normal inflation figures. Poultry and livestock are furnished with the same subsidy from community centers and with credits from the Agrarian Bank. In return, families are expected to cultivate a plot of at least 12 by 6 meters.

PAN's activities in this area are complemented by Integrated Rural Development (DRI) programs. DRI, which like PAN was developed in the mid-1970s, provides credit, technical assistance, and infrastructure to communities with large concentrations of smallholders (less than 20 hectares). Its aim is to stimulate production of more food for home consumption and for the domestic market. Though DRI was originally considered a component of PAN, the multisectoral scope of both programs and the problems of coordinating government institutions in each led to their separation. As a result, DRI has been active in states where PAN is not, with the single exception of Cauca where both are currently functioning.

The interconnection between PAN and DRI arises from the fact that most of the basic foods consumed domestically in the country are produced by small farmers. The success of DRI will mean a greater supply of those foods on the market at lower real prices. Most important, however, the two programs, though separated geographically in the initial phase until 1981, will both be extended afterward to all the states in Colombia.

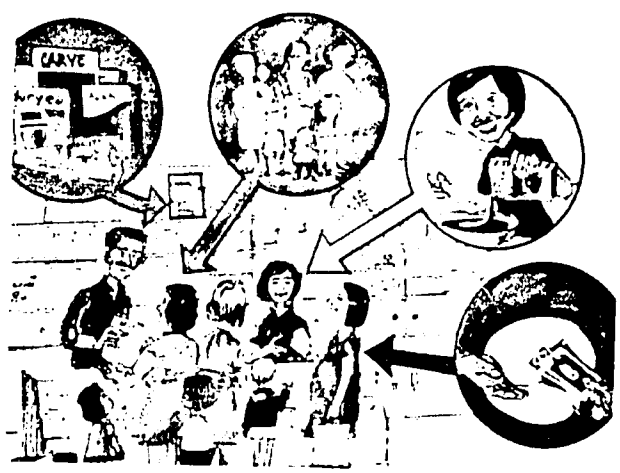
Education

Education for nutrition is the final ingredient in the PAN complex, an important complement to effective application of the other parts of the program. Education not only teaches about better nutrition in itself, but it reinforces use of the other services provided.

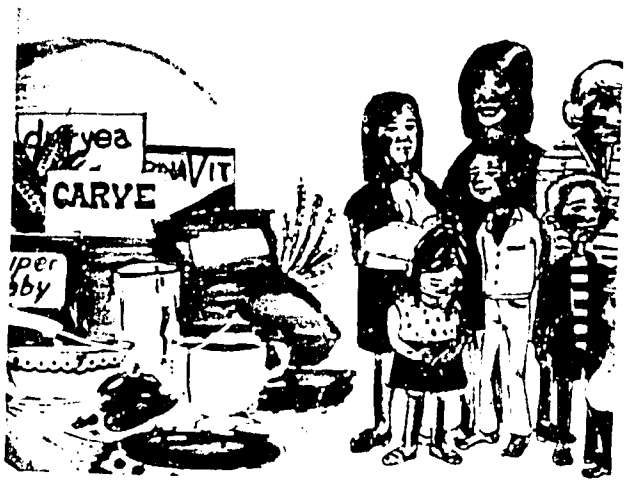
Colombia already has a long experience using the mass media to communicate nutrition information. Specialists at the Colombian Institute of Family Welfare, Radio Sutatenza (a Catholic institution concerned with literacy training and rural development), and community development projects have all been involved in the effort for many years. PAN builds on this tradition by injecting sizable funds to increase awareness of the causes of nutrition problems, the philosophy and characteristics of the new program, and to motivate people to use PAN services.

When utilizing mass media, PAN has chosen to concentrate on one theme for a period of several months at a time. For example, one topic was diarrhea, while another will be family gardens. Attention has been focused on radio as the most pervasive instrument for delivering messages. "Saturation" is achieved through 70 stations, sometimes with as many as 15 30-second presentations each day.

Other media have also been enlisted to convey nutrition messages, including the press, television, comic books, and slides, primers, and pamphlets used and distributed by schools, health posts, and the like. PAN also plans to produce six films dealing with the general theme of nutrition, the role of *promotoras*, and school and family gardens. All the materials for educational



Use of coupon - PAN education program (PAN-DNP).



Coupon foods and recipients - PAN education program (PAN-DNP).

Rural health post (PAN-DNP).

use and mass media promotion are designed and developed by the private sector on a contract basis. Radio Sutatenza has agreed to use PAN nutrition materials in its programs on rural development and health.

An equally important part of the education effort takes place at the interpersonal level, where the objective is to instruct all the relevant people about nutrition and what PAN is doing to deal with the problems. Participants range from medical personnel to the individual families participating in PAN programs. There has been a special effort to train instructors in indirect methods of education, on the assumption that participants will respond more positively to a fresh approach, and to design educational materials consistent with this method. The procedure is straightforward: the first target of instruction is a team of specialists, such as doctors and nutritionists, who then give instruction to nurses. The nurses, in turn, are responsible for communicating information emphasizing nutrition to the auxiliary nurses and the *promotoras*. On the local level, special courses are designed for shopkeepers and community leaders, whose support is essential to the effective functioning of the program. Finally, the *promotoras* complete the educational cycle by disseminating among specific families information on nutrition problems and how the various activities of PAN can help alleviate them.

In addition, seminars are scheduled for personnel of the numerous public and private agencies dealing with agricultural extension and job training that are parts of PAN. The intent is to guarantee that every person with any relationship to PAN will have an accurate understanding of nutrition and the various initiatives undertaken to improve it. University curricula in medicine, nursing, social work, and agriculture, and textbooks from the university to primary school level, are being, or will be, revised to increase emphasis on nutrition and to explicate the PAN philosophy and multisectoral approach.

A final means of improving nutrition education is the creation of scholarships for individuals who are or will be holding positions of major responsibility in PAN for advanced training in areas like nutrition administration.

Illustrative of Colombia's comprehensive educational approach is its national campaign to promote breast feeding. A national committee on breast feeding has been established which includes government agencies, public hospitals, and professional associations of nutrition and medical personnel. The committee develops general policy and guidelines on such questions as the duration of breast feeding, proper age for introducing complementary weaning foods and other practices related to breast feeding. Information and instruction is then provided through the various channels of communication which have been described, direct media messages, training of change agents, and revision of textbook curricula.

Support Programs: Research and Evaluation

While the ordinary participant in PAN programs is probably unaware of them, research and

evaluation are also important components of the entire panoply of PAN activities. In addition to the research associated with food coupons mentioned earlier, two other research efforts merit special attention. The first involves government support of private industry efforts in the development of new forms of low-cost enriched foods, one aspect of which is the development of small-scale processing units for producing these foods in rural areas. The second is the quest for alternative raw materials for enriched foods, since Colombia currently imports both wheat and some of its soybeans.

Another set of research projects is concerned with improving family and public consumption through better methods of conserving food. Colombia, like many countries, suffers substantial loss of food at all stages, from production to commercial processing, distribution, and home storage. PAN is also conducting research on developing an effective government system to guarantee that the foods used in the coupon program conform to quality expectations and do not spoil in high humidity or other inclement conditions. Every month, random samples of the food products approved for coupon purchase are tested for quality, to check for nutritional consistency and freshness.

According to PAN officials, theirs is the first social program in Colombia that has included as one of its central mechanisms a systematic process for monitoring effectiveness. The evaluation component has two dimensions. One involves periodic analyses of each aspect of the program and the factors that condition its success or delay in meeting the established goals. Each departmental office of PAN every four months submits a report on each component and the expenditure of allocated funds. The Colombian's second evaluation component is study of the effect of PAN on the nutritional status of the target population. The objective is to include assessment of changes, for example, in the weight and height of children, and analysis of the various factors that affect the general nutritional condition of the Colombian population.

Administration

PAN's legitimacy is established at the highest levels of the Colombian government. It depends on the National Council on Economic and Social Policy (CONPES), which is presided over by the President and includes key Cabinet ministers and directors of agencies involves in economic and social policy, including the National Department of Planning (DNP).

A CONPES subcommittee, the National Food and Nutrition Council, exercises direct responsibility for PAN. Its director is the head of the DNP, and its members are the ministers and directors of all the sectors involved in any aspect of PAN. The job of the Council is to supervise the various programs and propose to CONPES revisions that will enable the system to operate more effectively.

The National Department of Planning was chosen to coordinate PAN because of its previous experience in developing broad intersectoral development plans and because it is independent from any single ministry. The PAN office has its own technical personnel who are responsible for securing the collaboration on the national level of the various entities with specific functions in the program and coordinating their activities.

On the state level, there are PAN offices that correspond to the structure of the National headquarters. The PAN committee includes representatives of institutions that participate in the program at the state level, although the entities involved vary somewhat from state to state. In Valle, for example, PAN has been especially successful by utilizing the resources of the already experienced, interministerial Cauca Valley Development Agency.

The very existence of PAN in Colombia has affected all the people and institutions participating in its multifaceted programs. Institutions that previously gave little or no attention to nutrition now emphasize it in their programs and budget allocations. The Ministries of Health and Agriculture, for example, now conduct their operations not simply to promote health and agriculture, but within a broader framework of improving nutrition.

Costs

The accompanying table provides estimates of the costs of the PAN program for 1979. The table is based on projections and is provided to give an order of magnitude rather than exact data.

Costs refer to implementation of the program in ten states and Bogotá. This phase, as noted, is to be completed by 1981, after which PAN will be expanded through Colombia's other twelve states.

Effectiveness

Because PAN is relatively new, only a few studies of its effectiveness have thus far appeared.

PROJECTED COSTS, TOTAL PAN PROGRAM 1979 (US$)[1]

		TOTAL	PER RECIPIENT
HEALTH SERVICES[2]		$8,484,000	$4
SANITATION[3]		(10,458,000)	(24)
COUPON PROGRAM[4]		2,283,000	23
			(3-24 mos. - 17) (2-4 yrs. - 20) (Mother - 40)
DIRECT FEEDING[4/5]		18,068,000	[11][5]
DEMONSTRATION CENTERS & Family gardens[6]		752,000	4
NUTRITION EDUCATION[7]		2,538,000	1.12
APPLIED FOOD TECHNOLOGY AND QUALITY CONTROL		2,468,000	1.09
PILOT PROJECTS		799,000	.35
EVALUATION & MONITORING		470,000	.21
PROGRAM COORDINATION/ ADMINISTRATION		712,000	.32
TOTALS	principally operating	$36,574,000	$ 34
	principally capital	(10,458,000)	$(24)

1. Based on information provided in DNP-PAN Boletin Informativo Vol. 1, May 1979, p. 2 (currency conversion: 1 peso = .0235 U.S. dollars, May 1979, International Financial Statistics).

2. Principally operating costs to reach 2 million people by end 1979, plus upgrading/some construction 109 health posts.

3. Mainly construction costs for potable water for 400,000, also latrine program. Annual prorated capital cost over 20 year life would be roughly $500,000 per year, with partial recovery of investment to be obtained from contributions by users.

4. Initial implementation to reach 100,000 by end 1979. Coupon cost per recipient obtained from IBRD Appraisal Report, 1977, as primary source provided combined cost coupons and direct feeding only. Breakdown between coupon and feeding costs derived by taking total combined cost and subtracting cost per coupon recipient times number coupon recipients.

5. Original program not confined to 11 initial PAN districts. Cost per recipient of direct feeding is not included in total cost/recipient, because coupon and feeding are alternatives. While figure provided in this instance for feeding is lower than coupons, some observers believe that costs of the coupon approach will prove, due to simplified logistics, to be less than direct feeding.

6. Initial phase to be expanded. Does not include funds being provided for special additional cropping activities, training, extension, credit, and school gardens.

7. Interpersonal, mass media, and training, to reach 2 million by end 1979.

One of the studies demonstrates the difficulty of improving nutrition under inflationary conditions.[3] In two *barrios* of Bogotá it was found that over a period of 5 to 6 months, no improvement in nutritional status was noted among the participants. Although the study had certain defects, including the small size of the sample, the authors concluded that because of rising prices, people were eating smaller amounts of other foods outside the coupon system. In effect, the redistributive effect of the subsidies through the coupons was counteracted by the loss of purchasing power as a result of inflation. The encouraging side of the study was that those who participated in the coupon program maintained their nutritional status, while nonparticipants did not.

A second, more recent evaluation is considerably more positive. In a pilot area in which 1,700 children are participating, the *promotora*, in addition to her other activities, weighs the child each month directly in the home or at a nearby site in the community.[4] This is done with the participation of the mother and is recorded on a growth chart. Those involved in the activity believe this monthly monitoring plays a critical role in promoting both continuing participation in the program and proper use of the foods obtained.

The results to date need to be confirmed and replicated and the functioning of the activity studied further. Nevertheless, the findings are promising. First, for those children who remain continuously in the program for 4 months the incidence of serious malnutrition has fallen from 21 percent to 10 percent on the average. Second, the continuity rate for children entered in the program is very good, 86 percent. Finally, a high proportion of those eligible participate, including families in several outlying areas considered too distant for a mother's monthly trip to a health center to obtain coupons. (These individuals receive the coupons directly in their village.)

With respect to fulfillment of goals, the Colombian program is lagging behind in nearly all the components. This results in part from delay in securing the collaboration of the various participating entities, and in part because some components cannot be implemented until others are completed. Thus those programs that are most dependent on the establishment of other components—such as food coupons on the primary health system, or school and family gardens on the training of schoolteachers—have moved slowly. Despite the lags, Colombian officials emphasize that PAN is now institutionalized within the entities that are responsible for carrying out the various aspects of the program.

Several structural factors have also inhibited the implementation of PAN as rapidly as the planners originally anticipated. First, the emphasis on social development has been resisted by some officials who continue to favor economic development, strictly defined. Second, many of the cooperating entities are accustomed to making decisions that are relatively political. Such an approach naturally clashes with the more objective or technical criteria that guide PAN operations. Third, in public administration many positions are traditionally filled by political appointment, with frequent shifts as a result of pressure from factions of Colombia's two leading parties. Achieving commitment from top officials whose decisions and cooperation are indispensable is consequently an ongoing process. And fourth, the coordinating role of the DNP, which has expanded its power in recent years as a part of strengthening the presidency and increasing rational decision-making within the system, clashes with the interests and outlook of the traditional bureaucracy.

Another problem contributing to delay is the complexity of administrative procedures for acquiring funds. Because of its multisectoral character, PAN allocations must go through a greater number of stages than normal. Any request from the budget must pass through a series of institutions for study, approval, and the signatures of responsible officials. An application by a participating entity on the state level for Colombian government funds normally takes over three

3. *Contesen*, Informe Sobre el Estudio de la Segunda Etapa de Investigacion de la Brecha Alimentaria en San Cristobal Norte y Los Laches en la Zona Marginada de Bogotá, D.E., Bogotá 1977.

4. Hatch, J.K., Primer Evaluacion del Proyecto Piloto de Informacion, Cauca, Colombia (July-December 1978); Informe de Asistencia Tecnica al Programa de Alimentacion y Nutricion (PAN). (J.K. Hatch, Rural Development Services, 1687 Broadway, Ann Arbor, Michigan 48105, December 1979).

months to process; and a request from the World Bank takes over five months, chiefly because of the procedures necessary within the Colombian system.

In addition, the implementing institutions have frequently required time to assume effectively the new responsibilities associated with PAN. In many cases, they lacked trained personnel, means of transportation, and equipment which had to be supplied before they could become truly functioning participants in PAN.

Finally, cultural obstacles or indifference at the local level have inhibited the participation of many families in various components of the program. Some individuals for various reasons do not want to involve themselves with government personnel or in government-associated activities; others prefer traditional diets, even if these are inadequate; still others know about good sanitation or nutritional practices but have yet to be convinced that the advantages are worth the extra effort to change customary behavior.

Nevertheless, in early 1980, an estimated two million Colombians were participating in the health care and nutrition education aspects of the program. Over 400,000 were benefiting from improved water. And 100,000 preschool children and pregnant and lactating women were receiving food coupons with the pace of involvement expected to increase to 250,000 in 1981.

Advantages and Disadvantages

The description thus far suggests that the Colombian approach to nutrition, with its distinctive multisectoral and food coupon features, has certain advantages and disadvantages as compared to previous efforts in Colombia or under way elsewhere. While observers naturally view the program from more than one perspective, a list of these advantages and disadvantages might include the following:

Advantages of the overall PAN approach are:

1. It aims at confronting all the factors that cause malnutrition and thus brings together the institutions and public policies necessary to solve the nutrition problem.

2. Through its educational programs, training, and multisectoral emphasis, it promotes a consciousness of the importance of good nutrition among numerous government entities, as well as the population at large.

3. The nutrition program reinforces or complements other development goals, such as improved health care and increased food production.

4. It makes innovative use of a local person as the health worker to encourage confidence and to reach isolated families, both increasing awareness of nutrition and providing services.

5. It attempts to avoid governmental paternalism by insisting that participants provide labor or assume part of the costs for central features of the program.

PAN's food coupon system is attractive for several reasons:

1. It is integrated with the primary health system, which makes it easier to reach the neediest segment of the population and monitor use of the foods and nutritional improvement among the beneficiaries.

2. It has the potential to cover families not ordinarily participating in direct feeding programs. This is facilitated where the coupon approach is combined with delivery by the auxiliary to recipients in outlying areas.

3. It eliminates the extensive logistics of direct feeding, and may also reduce costs to the government.

4. It takes advantage of private sector contributions in research, processing of new products, and distribution networks.

5. It establishes in the private sector an immediate resource to replace imported foods used for supplementary feeding programs.

6. It encourages people to buy nutritious foods by providing an attractive variety.

7. It contributes to economic goals such as redistribution of income, stimulation of food production among small farmers and production of highly nutritive food by the industrial sector.

The principal disadvantages of the Colombian program are for the most part typical of new, complex projects:

1. Coordinating the different activities has proved to be slower and more difficult than it has in previous, more limited programs.

2. The program is relatively expensive, especially the cost of the health components, though it is a sound national investment in improved health care as well.

3. PAN's method of determining the target population, while it meets the needs of an important segment of the malnourished, does not succeed in reaching them all.

4. Colombia does not incorporate family planning as a component of its nutrition program. However, its system of maternal-infant health care does emphasize responsible parenthood. Other countries developing a multifaceted approach to nutrition might want to include family planning as part of it.

The food coupon component suffers from these disadvantages:

1. Coordination, especially keeping stores supplied with foods and guaranteeing regular distribution and use of the coupons, has been difficult.

2. The financial contribution that is required of the purchaser may present a problem for the poorest segments of the population, especially the unemployed.

3. Members of the family other than the target group may consume the foods.

4. Unused coupons may be diverted to uses other than those associated with improving the nutrition of the neediest groups.

5. The coupons may, when not accompanied by proper nutrition education and other developmental efforts, encourage a welfare-accepting attitude, with the result, in some cases, that beneficiaries do not plan their family size responsibly.

Replicability

The relative advantages and disadvantages of the Colombian program help determine its replicability in other countries. Recognizing the need to analyze local conditions, this approach appears transferrable under certain conditions. One is a significant long-term financial commitment by the government to increase investments in the many areas that are important to achieving adequate nutrition. It is also more easily replicable where there is experience with a local contact system like the *promotoras* and where a tradition of collaboration among various parts of the public administration has been established.

The coupon approach would appear to merit consideration in a fairly wide variety of situations. Commercial outlets of some type exist in nearly all communities in a great many developing countries. And, where private sector foods are not available, government produced foods might be an alternative. Experience to date suggests that the impact of the coupon approach will depend, along with other factors, on an effective system of local workers who maintain contact and provide instruction to individual recipients, although other means of community education may also be possible.

* * * * *

The Colombian nutrition program described here is one of the innovative approaches currently prevalent in a world community that is looking for fresh, effective ways to conquer malnutrition. The strong government commitment represented by its budget allocation, the emphasis on nutrition within the local health care system, the ambitious effort to coordinate many sectors, and the food coupon alternative to direct feeding programs are its principal exceptional features. Though the program has encountered obstacles, and a thorough evaluation of it has not been completed, Colombians believe that in its first four years they have developed a nutrition consciousness in their country and laid the basis for an institutionalization that cannot be reversed.

For those from other countries interested in nutrition programs, the Colombian experience is worthy of consideration for possible adoption as a model or in expanding present nutrition programs. Those seeking further information may write to:

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Bogotá, D.E. Colombia