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Prevention of Maternal Malnutrition
Through a Community Kitchen in Peru

FINAL REPORT
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Executive Summary

Programs to improve the nutritional status of women are needed in order to prevent the high levels of morbidity and mortality seen among poor women in developing countries. To date, few activities, other than supplementary feeding programs for pregnant and lactating women, have addressed women's malnutrition. The level of coverage of such programs is low and their successes in increasing dietary intake minimal. This is in part due to the demands such programs place on women's already limited time.

An innovative scheme developed by communities themselves to address the high costs of food and limited time of poor women has spread throughout the slums of Peru. Community kitchens (Comedores Comunales) are sites where women take turns cooking food together. Rations of food can be eaten on site or taken home to be eaten within individual households. While comedores have been a focus for research on community participation and organization, they have not been adequately evaluated for their impacts on dietary intakes or women's activity patterns. This project assessed such impacts of one comedor in Lima, Peru

Data were collected on dietary intake and women's activity patterns in the comedor community and in a control community in April 1988, October 1988, and April 1989 among mothers of children 3 years and under and among pregnant women. The operation of the comedor was monitored at bi-monthly intervals and participation by family members was assessed every three months.

A striking finding was that among families with young children, women were those most likely to use the comedor. In part, this is because on the days that they worked at the comedor, they received free rations. Children less than four years of age, those most at risk to malnutrition, seldom ate from the comedor, however.

While duty at the comedor meant one full day extra of work for women every two to three weeks, it resulted in time savings for women who worked for remuneration and for women who were involved as community leaders. The comedor helped reduce the time such women spent in food preparation. The comedor also was associated with improvements in the diets of mothers.

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Introduction

Programs to improve the nutritional status of women are needed in order to prevent the high levels of morbidity and mortality seen among poor women in developing countries. To date, few activities, other than supplementary feeding programs for pregnant and lactating women, have addressed women's malnutrition. The level of coverage of such programs is low and their successes in increasing dietary intake minimal. This is in part due to the demands such programs place on women's already limited time.

Many supplementary feeding programs in urban areas are located within maternal and child health clinics. An understanding of how community based self-help projects operate to improve maternal nutritional status may lead to an expansion of programs to address the needs of mothers at risk. Such community based activities may also have advantages such as empowerment of women and increased community action that clinic based nutrition projects do not have.

In the last 20 years, the urban slum population of Peru has increased from 320,000 people living in less than 100 "new towns" (Pueblos Jovenes) to over 2,000,000 currently living in over 600 Pueblos Jovenes. This represents about one-third of the total population of Metropolitan Lima. Most of the growth is a result of migrants from rural areas seeking opportunities to improve their living conditions. The decreasing ability of families to

meet costs of living, due to a decade of high rates of inflation, led to the development of the comedores comunales (community kitchens).

The first comedores arose in 1979 when inflation was over 100% per year. During this period, diverse womens' groups, especially mothers clubs, were organized to receive donated commodities. Instead of dividing the ration to be taken to individual homes, these groups decided to combine the rations to cook together for families. The number of comedores has grown, from 100 in 1981 to approximately 1300 at the present time.

Comedores comunales are places where food is prepared and distributed from common pots. A predetermined quantity of rations (average between 80-400 rations) are made in each kitchen daily. Although known as community kitchens, families often collect the rations from the comedor and take them to their homes, usually within a few hundred meters from the comedores (CARE, 1986).

Aside from helping to satisfy the food and economic needs of families, the comedores are thought to play a part in changing the role of women in the community. Many of the comedores have organized educational courses while others offer an informal yet extremely important form of education, including nutritional education. Workshops have been set up in some locations to provide women with sewing machines and courses in order to enhance

in industry fell by -12%, as well as in commerce by -4%; only employment in services grew by 1%. Real incomes decreased by nearly 50%. The rise in the Legal Minimum Wage (857.7% between Jan. and Dec. 1988) was at all times below the inflation rate and with significant delays, as it was allowed only every two to three months. Within this context, the effects of small scale communal projects, in this case a comedor may be dwarfed by the stunning effect of the economic crisis.

Study Site: The Community Kitchen in Chosica

This study was conducted in the urban slum of Ate-Vitarte, on the eastern outskirts of Lima, Peru. Ate-Vitarte extends about 23 km along the main highway connecting Lima with the departments in the central part of Peru. During the period 1972 to 1981, it had one of the top three rates of growth in Lima districts - over 10% growth per year, largely due to immigration of inhabitants of the South and central Sierra (Andean regions). Since 1984, there has been an influx of residents who have moved into new settlements with few public services, often lacking water, sanitation and electricity (INSAP, 1987).

Chosica, (a pseudonym) is a small shanty town outside of Lima in the area of Ate-Vitarte, an industrial section of the city. There is no electricity, running water, school or health facilities, and the precarious housing is built from straw mats. The majority of

The junta central (self-governing organization) of Chosica proposed the formal establishment of the comedor to the Assembly of Community Members. It was approved by the community and all families felt bound to fulfill the obligations it required. The junta is made up of male community leaders, with the assembly (including both men and women) electing a comedor committee that is made up of primarily women.

In contrast to many comedores in Lima, all families in Chosica have to fulfill turns working at the comedor, even if they do not buy the food cooked in it. This comedor is also different since it is seen as a community project, and not a women's project or a mothers club project. Additionally, the sale of rations is not limited to members of the community as it is in some other sites. However most workers at the comedor are women. This seems to be based on the traditional division of labor; mothers generally remain home or community bound, and because it is the woman's responsibility to cook.

Organization of the comedor

The comedor replicates the organizational structure of the junta. There is a president, vice-president and six officers who take charge of the daily tasks needed to run the comedor, except those of buying, cooking and serving food. The president usually makes at least two errands per week and attends numerous meetings at the

Town Council and with other leaders of comedores to apply for donated foods or equipment. The woman in charge of the food pantry and the treasurer spend a few hours daily at the comedor checking food acquisitions and the accounts.

Women in the community take turns working one day every 2-3 weeks, in groups of four. The working day begins at 7 a.m.; except for a break between 3:00 and 5:00 p.m., work lasts until 10:00 p.m. Their work includes purchasing all food at the local market, preparing a mid-day meal, serving it, and cleaning up, preparing a snack of milk with oats (vaso de leche) for children around 5:00, and then reheating the mid-day meal for dinner, serving and cleaning up.

This report describes an evaluation that assessed the impact of the comedor on maternal dietary intake and womens activity patterns.

Hypotheses

- 1) Diets of the women eating at the comedor will be enhanced over those of women in the same community who do not participate or participate irregularly
- 2) Women's time in food preparation will be reduced for women participating in the comedor.

Research Design and Methodology

To evaluate the effect of the comedor, a schedule of surveys was developed and implemented in the community and in a control community of similar characteristics but without a comedor, between April 1988 and April 1989. Variables reported on in this report include operation of the comedor, participation in the comedor popular, mother's activity patterns, food and nutrient intake of mothers and pregnant women.

Operation of the comedor

I. Every two months, the community kitchen was monitored for a one week period, to assess the types and amounts of foods served, the costs of the foods and other necessities, donated foods and subsidized foods used, the cost of rations, and the price of the rations. The kitchen was visited by a nutritionist in the morning and the foods purchased for the meals that day were weighed. Through interviews and direct observation of the food prepared each day for that week, the quantity of food used in cooking was noted, and the prices paid for the food recorded.

Participation in the comedor

Participation in the comedor was measured based on reports by the

respondents of the frequency of use during the week prior to the interview, for each family member. These measures were taken at 6 months intervals.

Mother's activity patterns

Twenty-four hour recalls of activity patterns were collected to assess the impact of the comedor on the time mothers spent in food preparation and other activities. Data on non-daily tasks were estimated based on a weekly or monthly recall and pro-rated on a daily basis. Participation in work at the community kitchen was reported as communal work. To assess the validity of the data, direct observations of tasks performed every half hour were done in a small number of cases to obtain estimates of ranges of time spent in various activities. Additional data were collected from depth interviews with women leaders in the community and through observation of daily routines at the comedor, at assemblies and other communal meetings.

Data on activity patterns were also collected from a nearby control community that did not have a comedor, in order to allow for comparisons. All pregnant women and those with children aged 3 years or younger were asked to participate in the evaluation.

The analysis for this section has been made in this report of the 22 mothers who were included in all of the surveys for the comedor

and of the 13 mothers in the control.

Food and nutrient intake of mothers and pregnant women

Dietary intakes were assessed using 24-hour individual recall and food frequency methodologies carried out at 6-monthly intervals during the year. Twenty-four hour dietary recalls have been used successfully to assess dietary intake. Dietary intake patterns can be collected in approximately a one hour interview, looking at frequency of feeding and types of food fed, with estimates made on the quantities (Brown, 1984). All mothers of children less than 4 years and all pregnant women were included in this recall. Quantities reported by respondents were checked with a small sample of women for whom weighed intakes of food were measured.

Modifications of original research plan

The use of the control village was found to be problematic. While initially the plans were to be able to compare women in the control to those in the comedor community, this became more difficult because of small numbers in the control. In the case of the control community it was extremely difficult to continue to carry out the surveys as the women became reluctant to cooperate. This was in part due to the characteristics of the population: there was little community organization and many of the families

were moving to other areas and were present only to maintain their land. There was little interest in the survey when there was no intervention in their community other than two short nutrition education sessions. Consequently it was not possible to complete all the interviews in the control community in April 1989. Results are reported using comparisons of the control to the comedor community, but need to be considered in light of the low response rate in the control.

Another problem with the control was the difficulty in finding a nearby community with similar characteristics to Chosica. In trying to find a community with similar economic and cultural conditions, it became evident that satisfying all the needs for similarity would be impossible. We therefore chose a community of similar size, with similar housing conditions, and patterns of work. It was difficult to have a community that had resided in Lima for as short a time as had the members of Chosica. It was therefore found that factors associated with the duration of residence in Lima, would make comparisons of the two communities biased. One particular factor thus affected was dietary intake, as more long term residents of Lima seemed to have different dietary practices. Therefore comparisons of households in Chosica and in the control are problematic. Comparisons of dietary intake were made primarily within participants and non-participants of the comedor solely within Chosica.

Another variation in the methodology in contrast to the initial plan was the data collection technique used to assess women's activity patterns. While we had planned to use the "random spot technique" to determine time spent by women in various activities, we found this to be unsuitable in this urban setting. The random spot technique necessitates the use of data collectors who visit homes at randomly selected times, and record the activity of the woman at the time of the visit. In this area, women are occupied primarily within the household, with the door closed. When a data collector arrives at the door, the mother stops her current activity, and may even change her clothes before she answers the door, thus preventing reliable non-intrusive assessment of time allocation. We therefore instead measured time allocation based on a 24 hour recall of activities.

Methods of Analyses

Data were edited and then entered into DBASE III+. An important issue related to data processing is the calculation of nutrients in the diet. In order to do this, the individual food codes need to be matched with a food composition table and then the nutrients calculated based on quantities of food consumed. The only complete computer program, which is written in Pascal, that we were able to locate in Peru is that at the Instituto de Investigacion Nutricional. Because we will need to use a food composition table for several surveys in the future, we decided

that it will be more appropriate to have a program written in DBASE, which non-programmers can easily learn to use. A consultant from the University of San Marcos, Department of Nutrition, was hired to develop this food composition table program, which will be use for her thesis.

The food composition table includes 4 columns for the food (the first two being the food group, and the second two the individual food). An additional column explains whether the food is animal or vegetable, which will help in analyses of protein quality and iron availability. Aside from the nutrients in foods per 100 gm, there is also be a code for percent of the food that is consumable (i.e., not the bones) and a code when the information on different nutrients was obtained.

A major problem in the data analyses for this study was in the delay in the development of this computer program. Because of the difficulty and large time requirements of analyzing nutrient data by hand, we were limited in our ability to analyze nutrient intake data until the program was complete and was working properly. This has taken much longer than initially predicted. Because of this, we are unable to report on much of specific nutrient data analyses; however, we are able to make implications about the results based on frequency of participation at the community kitchen and the quality of meals served there.

Once this program is completed, the Center in conjunction with INSAP a local NGO, will publish a manual on how the program can be used, and will make the program available at cost, so that other researchers in Peru can use the information in assessing food consumption.

Comparisons of results for participants and nonparticipant were made examining crosstabulations of distributions of responses and comparisons of mean values. SPSS-PC was used to analyze the data.

Results

This section is divided into results according to the types of issues assessed: 1) Participation in the comedor, 2) Operation of the comedor, 3) Women's activity patterns, 4) Maternal dietary intakes.

A baseline survey was conducted by 13 community leaders trained by Center staff in February 1989. This "auto-census" collected demographic information on the community. There was a total of 304 residents, with 38% less than age 15 years, 14% less than 5 years, and 6% over the age of 65 years. Of women 15 years and older, 51% performed remunerated work. The results of this "auto-census" were presented to the community in the form of a "folleto" (pamphlet) shown in Annex 1. This pamphlet was designed with the

community in order to be able to relay the information in an easily understandable manner.

Operation of the comedor

An evaluation of the impact of a community kitchen on dietary intakes of mothers and children necessitates an assessment of the foods prepared at the comedor. If meals prepared are few in number, or if they are low in nutrient content, then the likelihood of impact on families in the community are small. This section therefore outlines some of the nutritional aspects of the comedor including nutritional quality of food, cost of the menus, the influence of food donations and food subsidies, and the measurement of the kitchen's ability to improve food purchasing power, and meal quality in the midst of the inflationary crisis occurring at the time of the study.

Foods prepared at the kitchen usually included a soup and a segunda, or main dish. While these foods are prepared for only one meal per day (lunch), the rations were often purchased to be reheated at night.

Table 1 illustrates that the average number of rations (including both soup and main dishes) served and donated by the community kitchen remained fairly constant during March, May, and July 1988, but fell greatly in September and November. Donated rations are

primarily given to the volunteers, community members who take turns preparing the food. The steep fall in sales in the months of September and November coincides with the highest inflation rates when food prices rose 200% to 300%.

The number of rations served is relatively low at all times in relation to the number of families living in Chosica; in February 1988 there were 304 residents. The number of rations served includes both components (soup and segundo) served at lunch and dinner, and each of the four workers at the kitchen received four rations each per day worked. Free rations are donated also to orphans and widows. A complete ration for both meals would equal four per person per day, which means that there would need to be 1216 rations served in February 1988 to provide each person with one complete set of rations per day.

Table 2 shows the percentages of community kitchen food obtained from four sources: the district market (located about 2 miles from the village), donated commodities provided by CARITAS, the Food Subsidy program run by the local NGO, FOVIDA and the local store near the community. At the early stages of the comedor the kitchen received 100% of its food provisions directly from the market. When there was a high increase in prices, the kitchen started to receive subsidized and donated food. By the second visit, 35% of the total food was subsidized and 7% was donated. On average throughout the year, the subsidy program provided from

13%-35% of the food used in the comedor.

When available, donated commodities ranged from 7-9% of the food served. However there were several months when no donated commodities were available. This often occurs because of limited sources released by the government to the PVOs running food distribution programs, or because of limited availability of donated commodities.

The average number of rations served daily during 1988 fluctuated between 73-74 (March-May) and 35 (November), rising again up to 84 in January 1989 (Table 2). The number is at all times low, considering that in February 1988 there were 68 families living in Chosica (in April 1989 there were 84), and that such a number includes rations served both at lunchtime and suppertime. The rations sold are even fewer, as the four people working for the day have the right to take two free rations twice (lunch and supper), besides free rations given to orphans and widows. The steep fall in sales in the months of September, October and November coincides with the worst moment of the inflation curve, although ration prices, as all along the year, rose below the inflation rate.

Not all comedores in Lima receive food donations and some years ago many comedores were struggling to become less dependent on them. The comedor of Chosica had no donations in its initial

Table 1. Average number of rations served and donated daily by the Community Kitchen

	Percent of Rations Prepared		
	Served	Donated	Total
1. March 1988	53	20	73
2. May	64	10	74
3. July	42	20	62
4. September	28	16	44
5. November	17	18	35
6. January 1989	66	18	84
7. March	55	18	73

Table 2. Percent of Food Obtained for the Community Kitchen from Various Sources

	District Market	Subsidized (FOVIDA)	Donated Commodities	Local Store
March	100	-	-	-
May	58	35	7	-
July	73	20	7	-
September	87	13	-	-
November	67	18	6	10
January 1989	72	14	9	5
March	29	26	9	35

stage, and for six months afterwards it received cooking oil only in small amounts. Yet, it meant an important source of energy for the comedor rations, as fats and oils are very expensive and scarcely used. Donations were suspended in September, just before the great price hike, but after some months they were increased and provided more varied foods. In February 1989, for example, the following foodstuffs were collected from CARITAS: tinned beef (6 cases), wheat (five 50kgs. sacks), cooking oil (5 cases), powdered milk (ten 25kgs, sacks) and soy corn. These are supposed to last for three months until a new shipment arrives.

Another important source of foodstuffs, besides the Vitarte marketplace and local stores, is FOVIDA, a private organization buying in bulk or directly to producers and selling to comedores around Lima at prices below market prices. The impact of food donations and subsidies can be appreciated when comparing real (market) costs of rations with subsidized costs: at all times there have been some savings, lower in September (1.6%) and November (7.6%), but considerable in May 1988 (25%) and in January 1989 (46%).

From December 1988 onwards, the comedor received another type of subsidy. Through a governmental program, called PAIT (Programa de Apoyo al Ingreso Temporal), four salaries providing half of the minimum legal wage were earned monthly. Although the paychecks come with the names of four mothers working at the comedor, it was

an Assembly's decision that the money should be used to buy a second smaller stove for emergencies and extra cookingware.

With reference to subsidized food, in July and September the amounts purchased were noticeably less than in other months. This is due to the fact that the subsidy program prices almost equaled the market prices for the same goods. Only staples, rice, beans, and salt were bought through subsidies during these months.

In Table 3, we compare the price of a meal, (including food, fuel, and transportation) with the real and subsidized cost of a meal and the percentage of saving that corresponds to the kitchen's preparations. In March, the costs of a meal had a margin of benefit, which allowed the purchase of some equipment for the kitchen. Except in September, the bulk purchase of foods through the local NGO (FOVIDA) resulted in substantial savings over the market cost. The use of donated commodities, when available also helped reduce the actual cost of the meal. In some months the price of the meal exceeded the cost, often because with rapidly increasing food costs, the organizers of the kitchen were unable to determine accurately the cost of preparing meals, and accordingly were unable to accurately price the meals.

Additionally, not being a commercial enterprise, when setting prices, no rational calculus was applied. The prices being charged by nearby comedores were taken into account. There was

Table 3. Comparison of price of menu, real cost, subsidized price (in Intis) and percentage of savings

MONTH	PRICE OF MEAL @ I/.	REAL COST OF MEAL I/.	SUBSIDIZED PRICE (FOVIDA + CARITAS) I/.	PERCENTAGE SAVINGS I/.
March 1988	15	11	-	-
May	15	15	11.5	24.8
July	20	NA	NA	NA
September	40	30	29.9	1.6
November	80	58	53.6	7.6
January 1989	150	149	81.0	46.0
March	300	162	123	24.0

@ Exchange rate in March, 1988	75 I/. per \$1.00
May, 1988	75 I/. per \$1.00
July, 1988	170 I/. per \$1.00
September, 1988	340 I/. per \$1.00
November, 1988	565 I/. per \$1.00
January 9, 1989	1930 I/. per \$1.00
March, 1989	1200 I/. per \$1.00

Costs include purchase of food, fuel and transport for the purchase of food
 NA=Not available
 *Definition of % savings=(Cost in market -subsidized cost)/real cost

also a need to have additional cash in order to obtain credit from FOVIDA. Therefore from time to time, at the weekly meeting of the directing junta prices, were raised. Even so, there were several months when the comedor lost money. No special rates for large families were considered, and until recently ration prices were the same for community members and those from outside. Now people from outside the community must pay an extra fee to eat at the comedor; they include men working at a nearby sand mine, who come regularly to the comedor.

The price of the meal (as charged to the consumer) ranged from 8%-15% of the minimum wage from March through September, when the minimum wage increased from 120 I./ per day to 500 I/. per day. For a family of 5, one can see that to purchase 5 rations would mean spending the entire minimum daily wage on food for one meal.

In Table 4 the comparison of the ration quality in terms of energy, protein and cost of the food only is shown. In March, 1989 there was 699 kcal of energy in each meal. This increased by the second visit to 1080 kcal and remained almost the same in the fourth visit with 1036 kcal. These amounts of energy for each meal are within the normal ranges (800 - 1200 kcal) so the amounts of energy supplied by the meals are fairly good. Factors that contribute to the energy content of the meals are food subsidies, which gives a caloric benefit by providing products such as rice, wheat, noodles, flour. Donors provided the kitchen with cooking

oil, a source of energy. The positive effects of training are shown by the fourth visit because despite inflation, caloric benefit remains high and food purchasing (benefits of food weighed against cost of food) has improved. However the impact of inflation is shown as the total calories in the food reduced from September 1988 through March 1989.

Table 5 compares the energy contribution of different food groups in a given meal. Food groups that contribute the most energy are: cereal, providing 45 to 60% of the total energy, and roots and others, i.e. potatoes, providing 11 to 16% of total energy.

Table 6 gives the protein contribution to the diet provided by different food groups. Protein provided by animal products (meat and eggs) decreased substantially throughout the year, from 20% in March and May 1988, compared to 10% and 7% in January and March 1989. The proportion of protein provided by tubers (primarily potatoes) and legumes increased correspondingly. The high proportion provided by legumes in March 1989 was related to an increase in donated legumes that month.

In September there was a well thought out purchasing of food products, which was able to maintain the quality of rations. and make better use of available money. For instance, no flour was bought due to its very high price. More grain, cheaper than flour, was bought to compensate. Likewise, less beef was bought,

Table 4. Comparison of energy content, percent of calories from protein and cost per meal in the Community Kitchen

MONTH	ENERGY KCAL	PROTEIN (GM)	PERCENT ENERGY FROM PROTEIN
March 1988	699	17.8	10.2%
May	1080	27.8	10.1%
July	-	-	-
September	1036	23.2	8.8%
November	990	19.8	8.0%
January	882	18.4	8.9%
March 1989	830	19.8	10.9%

Table 5. Contribution of food groups as percentage of Energy Content of a Ration

Food Group	March	May	July	Sept.	Nov.	Jan.	March
1. Milk Products	-	0.20	-	0.19	1.1	0.16	-
2. Eggs	0.20	0.24	-	0.14	-	0.14	0.3
3. Meats	3.73	3.24	-	1.45	2.4	1.14	1.1
4. Cereals	59.88	54.39	-	60.28	54.3	59.46	54.1
a. whole grain	41.83	43.83	-	53.72	-	-	-
b. flours	5.38	3.10	-	0	-	-	-
c. pastas	11.67	7.66	-	6.56	-	-	-
5. Legumes	4.99	5.81	-	6.03	0.8	6.63	17.5
6. Vegetables	3.27	4.14	-	1.78	2.0	1.66	1.5
7. Tubers	11.41	14.76	-	16.44	24.0	20.43	13.3
8. Sugars	10.80	7.50	-	8.75	10.1	5.63	6.7
9. Fats/Oils	6.32	10.47	-	4.93	5.1	4.94	5.5

Table 6. Comparison of the percent contribution of protein from different foods in the menus in the Community Kitchen

Food Group	Month of Interview						
	March	May	July	September	November	January	March
1. Milk Products	0	0.47	-	0.47	3.1	0.6	0
2. Eggs	0.5	0.84	-	9.50	0	0.4	0.9
3. Meats	20.0	20.1	-	8.98	16.3	9.5	7.2
4. Cereals	50.5	46.1	-	52.00	53.7	51.1	41.4
5. Legumes	15.0	16.1	-	18.32	2.6	14.1	38.1
6. Vegetables	3.0	4.2	-	2.98	3.9	2.3	1.8
7. Tubers	11.0	12.2	-	17.14	20.3	22.0	10.6

and more legumes were purchased maintaining the protein intake per meal at lower cost. This resulted in a similar caloric and protein content of rations even though food prices increased.

The proportion of energy and protein provided by soups or main dishes is shown in Table 7. As illustrated, soups provide about half of the energy and protein content as that provided by the main dishes. This finding is important because many of the comedores in Lima started serving primarily soups when costs of food increased, resulting in probable detriments to the nutritional quality of the ration.

Summary: Operation of the comedor

Food price inflation which has a major impact on the poor and on their purchasing power, was a factor in the operation of the comedor. Food donations (mostly Food for Peace (USAID) commodities) provided through CARITAS and food bought in bulk at low cost by a local NGO (FOVIDA) and sold at subsidized cost, have been an important addition to the kitchen and contributed to the kitchen's ability to keep meal costs comparatively low and improve the meals' nutritional quality at the same time.

A preliminary version of the results presented above were presented at the Western Hemisphere Congress of Nutrition in Chile in November, 1988 and was published in the proceedings. (Carrasco, 1989) (Annex 2).

Table 7. Comparison of energy and protein content, percent of calories from protein and cost per meal by component

MONTH	ENERGY (KCAL)	PROTEIN (GM)	PERCENT CALORIES FROM PROTEIN	COST [@] I/.
I. <u>Soups</u>				
1. March 88	204	5.7	11.2	4
2. May	317	10.6	13.4	4
3. July	-	-	-	-
4. September	247	6.6	10.7	9
5. November	265	7.7	11.7	19
6. January 89	208	4.3	9.8	23
7. March	245	4.1	11.1	48
II. <u>Main Dish</u>				
1. March 88	454	11.4	10.0	6
2. May	692	16.7	9.7	7
3. July	-	-	-	-
4. September	662	14.1	8.5	16
5. November	636	13.0	8.1	27
6. January 89	673	14.2	8.4	51
7. March	582	15.7	10.4	114

@ Cost of food alone.

Participation in the Comedor Popular

Participation in the comedor was measured based on reports by the mothers of the frequency of use of the comedor during the week prior to the interview, for each family member. Table 8 gives the number of women interviewed at each survey point. The majority of the families with children less than 4 years of age and pregnant women used the comedor at least once a week at the beginning of the survey, in April 1988 (Table 9). In October 1988 this decreased dramatically as the survey was conducted shortly after severe price increases in food and other commodities in the country. The cost of the ration of the comedor had to increase considerably, making it more difficult for families to buy rations. In April 1989 there was an increase again in the number of families using the comedor. This was largely due to the receipt of donated and subsidized foods for the comedor which allowed the maintaining of a lower price. It is interesting to observe that the majority of families in comedor do so one to three times a week rather than every day. Few families consider it a daily resource.

The mother is the member of the family who uses the comedor most; when the comedor commenced, a number of fathers also consumed the meals, but the trend of reduced participation from October is also observed here (Table 10). For the evening meal the participation is slightly less, with a marked reduction at the time of the October survey, particularly for other adults and children.

Table 8. No of surverys carried out among Pregnant Women and Mothers of children less than age Four years.

MONTH	APRIL 1988	OCTOBER 1988	APRIL 1989
Chosica	22*	29	33
Control	25*	(31)	18

*There were 22 mothers who were included in all of the surveys for the comedor and of the 13 mothers in the control.

Table 9. Percentage of Families using the Comedor by the Number of Days used in the Preceding Week

	No. of Days Used			TOTAL
	0	1-3	4-7	
April 1988	14%	59%	27%	100%
N	3	13	6	22
October 1988	41%	52%	7%	100%
N	12	15	2	29
April 1989	24%	55%	21%	100%
N	8	18	7	33

Table 10. Percentage of Total Families that Consumed Rations for the Mid-day meal in the Comedor in the Previous Week

MONTH	APRIL 1988	OCTOBER 1988	APRIL 1989
Mother ate in <u>comedor</u>	59%	48%	58%
Father ate in <u>comedor</u>	41%	14%	30%
Other adults ate in <u>comedor</u>	18%	10%	15%
Children (all ages)			
1 or more children			
ate in <u>comedor</u>	64%	31%	42%
Children < 4 yrs	9%	4%	14%
N	23%	32%	37%

The number of children under 4 that consume food from the comedor is very low. This is the group most vulnerable to malnutrition (growth faltering occurs in this population from around 5 - 6 months of age until 2 - 3 years) and they are not receiving direct benefit from the comedor. Those children who did consume rations from the comedor received more at the mid-day meal than in the evening and the majority were not given other preparations made at home, particularly in April 1989. The majority were served the complete menu rather than soup or segundo (main course).

The reasons given most frequently for not eating from the comedor were for work, in the case of adults (particularly the father), and that they had children too young to eat in the comedor. Over 70% of women in all three surveys reported that there are differences between the food of the comedor and that prepared at home. The differences expressed are mostly: better taste at home; better nutrition at home; and a greater quantity available at home.

On a daily basis, most women in Chosica continued to cook to some extent even if they purchased rations at the comedor. Especially earlier in the year, about two-thirds of mothers continued cooking at home even on days they purchased food at the comedor. By April 1989, 40% of mothers cooked at home when they purchased foods at the comedor. This decrease may be related to cost savings that the comedor represented during worsening economic conditions at this point in time, or it may represent more satisfaction with the comedor, or

greater demands on women's time. Table 11 gives reasons why women reported cooking at home as well as using the comedor.

Suggestions for improving the comedor included improving the food of the comedor, improving hygiene and implementation although these were mentioned less for the last survey. In fact there were less suggestions for improvement during the last survey. However it seems that the greatest concern is for the quality of the food prepared.

A large proportion of families bought fewer rations than the number of members of the family who were reported to have eaten from the comedor (Table 12). This means that the ration was being diluted by being distributed amongst the family members and in a majority of cases, being supplemented by other food prepared in the home.

The pattern for the evening meal is the same, except that a higher proportion of families were not buying menus from the comedor at night.

Ethnographic data on participation in the comedor

In depth interviews of Chosica women about perceptions of the comedor show that those with larger families resent having to work fortnightly at the comedor, since the prices do not allow them to buy enough rations or to buy them frequently. They continued to do it because it is seen as a communal obligation. Asked about the benefits of having

Table 11. Reasons given for cooking at home as well (% of answers)

	APRIL 1988	OCTOBER 1988	APRIL 1989
Cheaper to Prepare at home:	28	20	4
More quantity at home:	24	32	26
Better taste at home:	20	20	26
Better food for children:	20	8	11
Other reasons:	8	20	33

Table 12. Percent of Families Eating in Comedor in Relation to the Number of Rations Bought and number of family members

MONTH	APRIL 1988 (n = 19)	OCTOBER 1988 (n = 17)	APRIL 1989 (n = 25)
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Midday Meal

% of Families that bought more rations than people	0	18	12
% of Families bought same No. of rations as people	47	41	24
% of Families that bought less rations than No. of people	32	24	44
% of Families who did not buy whole menus	21	18	20

a comedor, all women interviewed said it was useful for the days when they had to leave the community (to visit relatives or do bureaucratic business, enroll children at school, go to the hospital, etc.). They are aware that to receive donated food they have to have a comedor, but some stated they would rather have the food distributed directly to families. Lately, the comedor is allowing people to take rations and pay by the end of the week. This scheme is seen as a way of helping the poorest families, who have no money at all at some times.

Summary: Participation in the comedor Popular

The extremely low participation rates of young children in the comedor is the most striking finding. Large families were unable to participate in the comedor, as much as smaller families because of economies of scale in large families. The community is now considering if there are ways the comedor can be modified to address these two findings and enable it to provide greater benefits for those most in need.

Women's Activity Patterns

There were various surveys conducted at each data collection time. The number of mothers surveyed in Chosica increased during the year. This was because new families entered the community; if the women were pregnant or had children under 4 years of age, they were included in the study. Similarly, this occurred in the control community.

Table 8 gives the number of women interviewed during the surveys conducted in April and October 1988 and April 1989.

The following analyses are conducted on only those women who were included at both interviews (20 and 13 women in Chosica and Control). Five women in Chosica were defined as community leaders (working on the comedor or vaso de leche program), 5 were workers (full or part-time) and 10 housewives. There were no women community leaders in the control village, and 4 were workers and 9 housewives.

Role in Leadership Formation

While the community junta is comprised of men, members of the executive committee of the comedor consists of both men and women. Some of the men also serve on the junta. Though women still are not involved in the directing council of the community, they are responsible to the junta. This role has raised the power of women within the community, as they now must speak at meetings, present information and lead discussions on issues pertaining to the comedor. All main decisions on the comedor are made at general assembly meetings. The comedor has thus led to an increase in leadership skills of several women in the community members and an increased voice in the operation of the community and its activities.

Women's Working Days

The duration of the average woman's day is quite long in both communities, and has increased over the year as the economic crisis made their home situations more precarious. Work hours were defined as all hours in which childcare, household production or income production occurred. This did not include time spent resting, chatting with friends, or sleeping. Women worked on average 13.3 hours in April 1988 compared to 14.2 hours in 1989. The longest work day was experienced by workers (part or full time), next by leaders and the least by housewives. Though the numbers of women included are small, the tendency for this pattern to exist is evident in both Chosica and the control (Table 13).

Women with higher numbers of children had longer work days, as shown in Table 14 for Chosica. Because of the fewer number of women in the Control, the data are not presented, though the trends were similar.

Time Spent in Food Preparation

The time spent in food preparation includes several components:

- *Food and fuel purchase
- *Food processing (cutting, peeling, etc)
- *Cooking
- *Serving
- *Clearing and washing dishes
- *Gathering water

Table 13. Average Number of Working Hours for Women by Occupation

Community	April 1988	April 1989
<hr/>		
Chosica		
Workers	16.15	15.50
Leaders	13.45	14.10
Housewives	12.15	13.50
Control		
Workers	13.30	14.15
Housewives	13.30	14.20
<hr/>		

Table 14. Average number of working hours by the number of children in family.

Number of Children	April 1988	April 1989
1 child	13.0*	13.2
2-3 children	12.3	13.5
4-5 children	14.3	15.0
6-8 children	15.0	15.0

* This figure includes the 2 full time workers, and since they have longer working shifts, their presence in this group raises the average value.

Table 15 illustrates that women spent on average 3 to 3.5 hours on food related tasks at home (not including time spent cooking at the comedor).

Factors that affect the time spent in food preparation include the distance between the family's hut and the water tap. Cash availability can affect whether women will need to walk daily the two kilometers to the market, or whether they can make large purchases ahead of time. On the other hand, the poorest families with small amounts of cash that can only make small daily purchases, may deem it more efficient to pay higher prices at the local stores.

Impact of the Comedor on Food Preparation in the Home

Table 16 illustrates that over the year during which the comedor became well functioning, the time spent on food preparation decreased. Because travel to make food purchases or obtain water complicates the analysis as described above, the following section only compares time spent in the other food related tasks. This table reports only the proportion of time spent out of the total working day, but the absolute time shows a similar pattern. The percent of time spent in food preparation decreased in Chosica, but remained fairly constant in the control.

Workers and leaders spend less time to prepare and serve food at home. Workers reported eating at their work places, and leaders used the

Table 15. Time Spent in Food Related Tasks (Hours)

Community	April 1988	April 1989.
Chosica		
Min.	1.5*	1.2
Max.	9.3	7.1
Mean	3.4	3.2
Control		
Min.	.1*	1.3
Max.	6.4	6.4
Mean	3.3	3.3

*One women in Chosica works preparing food as a street vendor, and cooks for her family at the same time. One family in the control reported never eating at home in April 1988.

Table 16. Percent of Working Hours Spent in Food Preparation by Occupation and Number of Children

Community	Occupation	April 1988	April 1989
Chosica	All	19.2	13.7
	Workers	9.5	6.8
	Leaders	16.0	14.3
	Housewives	25.8	18.3
Control	All	16.9	17.1
	Workers	16.4	15.0
	Housewives	17.0	17.8
Chosica	No. of Children		
	1 child	12.5	12.6
	2-3 children	21.0	14.0
	4-5 children	19.5	12.5
Control	6-8 children	26.3	18.3
	1 child	14.5	-
	2-3 children	18.7	18.5
	4-5 children	20.0	17.0
	6-8 children	12.3	16.8

comedor most frequently. Women in Chosica appeared to decrease the amount of time spent in food preparation over the year, while those in the Control had similar percentages at both times. This suggests that the existence of the comedor may have helped at least some women in Chosica reduce the time spent in food preparation overall.

Table 17 gives the average percent of time in food preparation by the frequency of use of the comedor. As illustrated, those women who used the comedor the most (those with longer working days), spent less time in food preparation at home. The comedor thus has helped some women cope with the task of being community leaders and caring for family feeding needs, as well.

Organization and Women: Another Constraint On Their Time

Besides helping cooking and serving once every two weeks, the women in Chosica have to attend a weekly meeting to discuss matters concerning the comedor are discussed. The meeting, called Comedor Assembly, usually lasts two hours. For special tasks, such as repairing the kitchen or doing some legal proceedings to get donated food, committees are named at these meetings, entailing additional work during the week.

The women who work the most are the leaders. Some of them have to spend many days visiting organizations and attending external meetings in order to obtain donated foods. Others, who supervise the daily

Table 17. Percent of Time Spent in Food Preparation by Frequency of Use of Comedor

Days per Week	April 1988	April 1989
0-4 times	20.2-27.0%	14.3-14.8%
5-7 times	8.5-12.0%	8.5-11.55

service or do the accounting, have to go to the comedor daily for a couple of hours.

Since quantitative methods do not easily describe the daily life of women in Chosica. We decided to illustrate three cases histories of active leaders within the community.

U.C. was president of the comedor in April 1988. She has 7 children and worked 18 hours a day. She only spent 4% of that time preparing food to complement the comedor's rations, which she bought daily but not in enough numbers to feed her large family. Although the price was very cheap she could not afford it. In April 1989 she was no longer the President nor a formal leader, but she still worked 16 hours a day, after taking care of the organization and matters of the comedor. She spent 19% of such time preparing food. At that time, she fed her whole family with 3 rations a day.

Her oldest daughter, M.G., a single mother of one, lived by herself and, in April 1988, was also a leader in charge of the "Vaso de Leche" program (milk program). Her working day lasted 14 hours, with 21% of her time dedicated to food preparation. She bought rations only once a week and also cooked other food on such days, mainly for her baby. In April 1989 she was no longer a leader but had two part time jobs, one as a street vendor in the local marketplace, 2 Km. distance away. Her working hours added up to 16 hours but she only spent 4% of her time preparing food as she could now eat daily at the

comedor. She prepared no extra food on such occasions, except for the baby's milk and breakfast.

M.S. is a young, intelligent and literate woman. She was first nominated by her community to be trained in first aid and self-help health basics, so she became the "promotora de salud" of her community. She was in charge of their first-aid kit and of helping coordinate vaccine campaigns. She also was elected as treasurer of the comedor. As such she worked daily for 18.30 hours, the longest working day registered in April 1988. She used to go very early to give out the money for food purchases. Her day ended up at 10 p.m., by doing the accounts. Only 9% of her time was dedicated to prepare

food. She had three young children and became pregnant in the spring. She bought rations from the comedor daily but she had to cook extra food at home because often she considered the menus not to be appropriate for her little children. Her fourth baby was born in April 1989. She was no longer the comedor's treasurer but was still in charge of the community health kit and campaigns. Her daily working hours had decreased to 14.3 hours, 14% of which she spent preparing food. She bought rations from the comedor four times a week but still had to prepare extra food for her babies.

Summary: Womens Activity Patterns

These individual case histories illustrate similar patterns as the

overall analyses. Leaders spend a large amount of time in communal activities and the comedor has helped them to do so by reducing the time spent in food preparation at home. The comedor has also led to an increase in the status of women within the community.

Dietary Intakes

Food Frequency

To determine whether the diets of families who participated in the comedor improved, and whether their diets are better than those of the control community during this period of severe economic crisis, comparisons are made between foods prepared at home for the three time periods. Comparisons of preparation of foods is divided into meal times.

Breakfast:

Infusions are most commonly prepared as the drink at breakfast, more frequently than either a milk- or cereal- based drink (such as an oat-based drink). There was little difference between Chosica and the control group at the commencement and at the end of the year. However, in Chosica a higher percentage of families served bread alone rather than with butter or another ingredient for the first survey. The difference was maintained at the end of the year, but in both communities there was an increase in the frequency of bread unaccompanied by another ingredient, probably an effect of the worsening economic conditions.

Mid-day Meal:

Soup: The majority of families in both communities prepared soups most days, with no difference in frequency between the two communities. As the end of the study there appeared to be a slight reduction in the frequency of soup preparation in both groups.

Of the types of soups prepared, the control group had a higher frequency of preparation of vegetable soup, whereas Chosica had a higher consumption of noodle based and whole grain-cereal based soups. In the control group, the frequency of preparing vegetable-based soup decreased during the years, as did the consumption of noodles-based soup. This was compensated by an increase in cereal-based soup, cheaper than noodles because it is produced in the country.

Segundo (main dish)

At the commencement of the study period, families in Chosica often did not prepare segundos, but consumption increased during the year. It was much more common in the control community, which had more urban dietary habits, to prepare segundos.

Of the stews prepared, the control group consumed dried bean stews more frequently at the beginning of the year. However, during the year, the frequency in the consumption of beans increased in Chosica; it remained the same in the control community.

The control community used stews including an animal product much more frequently than in Chosica at the beginning of the year, and this reduced considerably with the inflation over the year. In Chosica, the reduction in the frequency of using animal products was less affected. In both communities there was an increased frequency in the consumption of vegetable-based stews.

Effect on Diets of Participation in Comedor

These results are very difficult to interpret due to the fact that in each of the surveys the majority of families consumed the comedor rations only 1-3 times during the week.

Midday meal

Soups:

It appears that the frequency of consuming different food groups is similar in those that used the comedor, as well as those that did not. There is a slight decrease in the frequency of vegetable soup with those consuming in the comedor and an increase in use of noodle soup and cereal-based soups.

Segundo

The increase in the frequency of the use of segundos during the year in Chosica appears to apply to both those who participate in the comedor and those who did not. This could be a process of urbanization or perhaps an effect of the training provided by the

project on how to improve meal preparation. The preliminary results indicate that families eating in the comedor increased the frequency of consuming legumes, which may be because of the donations of legumes provided to the comedor or because of the training which encouraged the use of legumes as a cost effective means to enhance the protein content of the ration as the cost of meat became prohibitive.

Fish

The frequency of the consumption of fish, the cheapest source of animal protein in Lima, decreased in both Chosica and the control communities during the course of the year. At the beginning of the study period a majority of women were consuming fish two or more times a week (Chosica 50%, control community 72%, and this decreased to 24% and 39% respectively). At the end of the study period, the majority reported consuming fish once or less a week. The percentage of mothers not consuming fish increased from 4% to 11%-12% in both communities. At the beginning of the year there appears to have been a slightly greater frequency of fish consumption amongst those families consuming in the comedor, but at the end of the year there was no difference between the two groups. The interpretation of the results between the mothers of families who participated more regularly in the comedor is difficult as the number of families who did not consume in the comedor is small.

Beans

In the beginning of the year the frequency of the

consumption of beans, an important source of protein, by the mothers was higher in the control community than in Chosica (92% of mothers in the control community and 59% of mothers in Chosica consumed beans two or more times a week). In both communities the frequency was reduced by the end of the year to 28% and 21% respectively, with the majority consuming once or less times a week. The reduction in frequency was felt by a larger percent of mothers in the control community and there was less reduction in frequency of those participating in the comedor of Chosica.

Milk

In Chosica the percent of mothers reporting consumption of milk on a daily basis increased from 46% to 64% whereas in the control community it decreased from 44% to 28% where the majority reported a consumption of two or more times a week. This is probably due to the fact that donated milk from Caritas to the comedor of Chosica was distributed to the families. In the control community there was no milk donated through this channel and the reduction in the frequency of milk consumption reflects the economic crisis occurring during this time. Those mothers of families participating in the comedor maintained higher frequencies of milk consumption than those who did not. Milk was donated that was used in the comedor meals as well.

Eggs

During the year the frequency of the consumption of eggs in both communities has been maintained in spite of the increase in

price. There appears to be a slightly higher frequency amongst those families participation in the comedor.

Meat

The frequency of the consumption of meat amongst the mothers in both communities has decreased. The percent of families that consumed meat twice or more times a week was reduced from 73% to 52% in Chosica and from 96% to 78% in the control community. It is surprising that with the tremendous increase in prices the frequency of meat consumption has remained high. This is largely due to a dependency on meat in the diet.

Viscera

In both communities the frequency of consumption of viscera was reduced considerably during the course of the year. The percent of mothers consuming viscera twice or more times a week was reduced in Chosica from 55% to 6% at the end of the year and in the control community from 64% to 11%. In both communities the percent of mothers not consuming increased from 18% to 46% and from 4% to 28% respectively. It is interesting that the reduction appears to be greater than with meat when viscera are in fact, a better buy in terms of nutritional value per cost. The frequency of consumption appears to be slightly less among those families consuming in the comedor of Chosica.

Fruit

At the beginning of the study year the control community had a higher percent of families consuming fruit more frequently than Chosica. By the end of the year more mothers had reduced their consumption of fruit in the control community whereas in Chosica the frequency had been maintained. There was no apparent difference with the use of the comedor.

Pasta

There has been a reduction in the frequency in both communities during the year and this is an effect of the economic crisis as it is a product that has increased considerably in price as the subsidies have been lifted. The percent of families that consume pasta on a daily basis has been reduced from 68% to 3% in Chosica and from 56% to 0% in the control community. The majority consumed pasta two or more times a week at the end of the year (Chosica 78%, control 61%). There appears to be a slightly greater reduction in pasta use by those participating in the comedor.

Quinoa

There is little difference in the frequency of consumption in the two communities. In both there was a slight reduction during the course of the year.

Maize

In Chosica there was a slight reduction in the frequency of

consumption during the course of the year. In the control community there was a greater reduction. There was no effect of the comedor.

Potatoes and Rice

The frequency of consumption was maintained in both communities throughout the year with around 94% of families consuming each of these products on a daily basis. This was the same for those participating in the comedor.

Summary: Food Frequency

In general terms, it appears that the economic crisis has hit harder in terms of change of dietary practices in the control community than in Chosica. Some of this may be due to the presence of the comedor. It will be important to compare the changes in the frequency of consumption of the different foods by the mothers with their nutrient intake calculated from the 24-hour recall, so that the effect of these reported changes on the nutrient intake can be seen.

Food Expenditures

Data on expenditures were collected every 3 months from the women included in the study. One lesson learned from this study was the difficulty in obtaining representative estimates of family expenditures with the small sample sizes in this study. When extreme conditions occur within a study such as this, they can bias the data. For example, in some cases, the percent of expenditures for food was less than 20%, because of high expenditures one month for health care

for one family, and for educational expenses for another. Given these caveats, Table 18, gives the percent of total expenditures for food and for fuel. Food expenditures increased as a percent of total expenditures substantially in November and January, but reduced again in April, 1989. On average, over 60% of expenditures went for food, both in Chosica and the control community. This percentage increased by 13% from April 1988 to April 1989, due to worsening economic conditions. Fuel (kerosine) costs also rose greatly as a percent of household expenditures from November 1988 to April 1989.

Comparisons of food expenditure by use of the comedor proved problematic, because of the small sample sizes. Families with higher expenditures on food were often larger families, who were less able to participate in the comedor, or who bought rations but divided them among all the family members.

Implications for Policy

Programs to address malnutrition of women have, in the past, mostly centered on supplemental feeding programs and "food for work" programs. Food for Peace and the United Nations World Food Program have supported such programs through donations of food. The feeding programs, although successful in some parts of the world, are marked with inherent structural, logistical and political problems. The organization of comedores has suggested an alternative use for donated food as well as governmental and organizational support in the developing world.

Table 18. Percent of families with given levels of expenditures for Food and Fuel

MONTH	April	July	Nov.	Jan.	April
Food					
0-40%	32%	21%	5%	21%	21%
41-70%	42%	63%	63%	32%	63%
71%-99%	26%	16%	32%	47%	16%
Fuel					
0-4%	90%	90%	58%	37%	58%
4%+	10%	10%	42%	63%	42%

Since comedores are initiated and controlled by the communities themselves, many of the logistical problems encountered by supplemental feeding programs are avoided. For example, getting food to the food site, getting people to use the program, reaching the people most in need, getting people to help with the preparation, serving and clean-up are not problems in the comedores. More importantly, comedores solve the problems of continuity and save women time instead of requiring more time, since the women do not have to walk far distances and stand in long lines to get the food. Time savings rather than increases demanded by many health interventions may be particularly important if women are to benefit (Leslie, 1985; Leslie et al, 1986).

Because of the nature of the comedor, the community feels that the project really belongs to them, not a gift forced on them. Thus, the community is more willing to make contribution to the development of the project and will therefore enhance the spirit of cooperation throughout the area.

Community kitchen activity has been beneficial to women in more ways than one. Participation in the design, implementation and organization of the kitchen has given women a sense of personal and emotional security. In addition, it has enhanced their opportunity to participate in political and communal life.

The access to the comedor has led to improvements in diets for women and has helped those working outside their homes or as community

leaders to reduce time spent in food preparation. The fact that this project was particularly beneficial for women though supported by the community as a whole, has implications as a model for other programs that attempt to improve the nutritional and health status of women.

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Annex 1
Pamphlet given to Community
of "Auto-Census"

VIVIR

ATE VITARTE, ABRIL DE 1988

CON SALUD



EDICIÓN ESPECIAL
DE LA ORGANIZACIÓN DE POBLADORES INMIGRANTES DE CHINCHO



ASÍ FUE NUESTRO AUTOCENSO...
Y AHORA PUBLICAMOS LOS PRIMEROS RESULTADOS

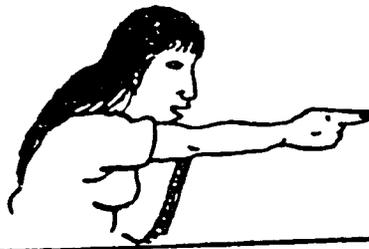
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HACE UN TIEMPO
VINIMOS DE CHINCHO
¿RECUERDAN?

NOS FUIMOS REUNIENDO
Y ORGANIZANDONOS
HASTA FORMAR EN 1984
NUESTRA ORGANIZACION
DE POBLADORES
INMIGRANTES DE CHINCHO



EN LA DIRECTIVA
NOS DIMOS CUENTA
QUE PARA SEGUIR
AVANZANDO COMO
ORGANIZACION,
TENIAMOS QUE
CONOCERNOS
MEJOR.

POR ESO, HICIMOS NUESTRO
AUTOCENSO EL DOMINGO 7 DE FEBRERO DE 1988,
Y AQUÍ ESTÁN ALGUNOS RESULTADOS...



EN TOTAL
SOMOS

70
FAMILIAS

LA MAYORÍA DE
NUESTRAS
FAMILIAS SON
CON PAPA,
MAMA' E HIJOS



36

FAMILIAS
NUCLEARES
COMPLETAS

EN VARIAS, FALTA
EL PAPA' O LA MAMA',
O SON DE HERMANOS
SOLOS.



16

FAMILIAS NUCLEARES
INCOMPLETAS

EN ALGUNAS FAMILIAS
VIVEN, ADEMAS,
OTROS FAMILIARES



11

FAMILIAS EXTENSAS

POCAS SON DE UNA
SOLA PERSONA

«Queridos
padres...»



7

FAMILIAS UNIPERSONALES

OTO: EN FEBRERO, CUANDO HICIMOS NUESTRO AUTOCENSO, ÉRAMOS
70 FAMILIAS. COMO SOMOS UNA COMUNIDAD QUE ESTÁ CRECIENDO, SE-
GURO QUE ALGUNOS DATOS IRÁN CAMBIANDO CON EL TIEMPO.

Annex 2

Experiencia de apoyo y evaluación nutricional
a un Comedor Comunal en Lima Metropolitana

Experiencia de apoyo y evaluación nutricional a un Comedor Comunal en Lima Metropolitana

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AN EXPERIENCE OF SUPPORT AND NUTRITIONAL EVALUATION IN A COMMUNITY KITCHEN IN URBAN LIMA

ABSTRACT

Nutritional quality of menus from a Community kitchen in Lima was evaluated. The effect of donations and food subsidy on costs, and the impact of capacitations on adequacy of food purchase were analyzed. Menus were evaluated every two months during 1 week and sessions of capacitation were implemented. Initially all food consumed was bought and later donations and subvention were introduced. Energy and protein content of the rations was appropriate and subsequently improved during the survey period, despite the high rates of inflation observed during the study. Soups have significantly lower nutritional value and a high cost. The main source of energy and proteins were cereals, tubercles and legumes. At the end of the period a better utilization of the available resources was achieved. This experience shows that community kitchens are an alternative of survival that improves nutritional status and counteracts the impact of the economical crisis in the poorest groups.

INTRODUCCION

La situación económica de la mayoría de las familias de los centros urbanos del Perú es precaria y por lo tanto es urgente optimizar el consumo de alimentos ante la escasez de ingresos. Existe una gran movilización individual, familiar y comunal en la formulación de estrategias, pero el impacto de estas medidas no es conocido porque habitualmente no han sido evaluadas. Esto es especialmente válido para los programas donde se colectivizan las preparaciones de los alimentos, como son los "Comedores Populares", que son concebidos como una alternativa para mejorar la alimentación del pueblo (1-3).

Como muchas experiencias que tienen que hacer con la alimentación, los comedores populares, con casi 10 años de existencia no han sido adecuadamente evaluados con respecto al impacto nutricional que producen (4-5).

El presente estudio fue realizado por el Centro Preventivo de la Desnutrición (CEPRED), que es una institución que tiene como objetivo fundamental auspiciar proyectos innovadores, gestiona-

dos comunalmente, que utilicen tecnologías locales y que tengan efectos preventivos sobre la malnutrición. Para ello se realizó un convenio de apoyo y evaluación del impacto nutricional del Comedor Comunal de la Asociación de Vivienda "Hijos de Chincho", en Ate-Vitarte, Lima, Perú.

Esta asociación está constituida aproximadamente por 80 familias, la mayoría de ellas emigrantes de las provincias Huancavelicanas afectadas por el terrorismo a partir de 1980. Reubicadas en Lima en un terreno cedido por la Municipalidad de Vitarte, están tratando de mantener sus tradiciones comunales y organizarse lo mejor posible para sobrevivir en la ciudad.

El convenio contempla las siguientes líneas de trabajo:

- seguimiento al comedor comunal (organización),

- evaluación alimentaria nutricional de sus menús durante una semana, cada 2 meses.

- acciones de capacitación a partir de los problemas observados en la evaluación.

El presente estudio tiene como finalidad dar a conocer algunos de los aspectos nutricionales en-

contrados en el seguimiento: calidad nutritiva de los menús, cómo influyen la donación y el subsidio de alimentos en el costo de los menús y medir el impacto de la capacitación en una mejor compra de alimentos.

MATERIAL Y METODOS

El seguimiento y evaluación de los menús del comedor comunal se realiza cada dos meses desde el inicio del convenio (marzo de 1988), para lo cual se realizan coordinaciones con los dirigentes y con las madres en sus reuniones semanales. La información se obtuvo durante 7 días consecutivos mediante visitas y entrevistas a las señoras que preparaban los menús: cantidad de alimentos comprados, donados y subsidiados; cantidad y precio de los alimentos usados en las preparaciones y número de raciones vendidas, fiadas y donadas. A partir de estos datos se calculó el valor nutritivo de los alimentos y de las raciones (6-8).

La capacitación tiene como finalidad impulsar y fortalecer los conocimientos sobre alimentación y nutrición, a partir de las propias vivencias y prácticas. Está orientada a intercambiar conocimientos y tener nuevos elementos que permitan visualizar mejor la problemática de la alimentación y sus posibilidades de corrección, con acciones concretas que posibiliten un mejor aprovechamiento de los productos alimentarios. La metodología utilizada se enmarca dentro de los conceptos de educación popular y educación de adultos y el temario desarrollado incluía un total de 6 temas.

RESULTADOS

Este análisis preliminar se refiere a los seis primeros meses de funcionamiento del convenio (marzo a septiembre). El promedio de raciones vendidas y donadas en el Comedor se mantiene

durante las tres primeras visitas (Tabla I). Se observa al final del periodo una disminución en el número de raciones vendidas, debido a un fuerte incremento en el costo de la ración, por mayor costo de los alimentos básicos.

Tabla I. Número promedio diario de raciones vendidas y donadas en el comedor comunal

Mes	Raciones vendidas n	Raciones donadas n	Raciones total n
Marzo	53	20	73
Mayo	64	10	74
Julio	42	20	62
Septiembre	28	16	44

La Tabla II muestra la procedencia de los alimentos utilizados para la preparación de los menús. Al inicio el comedor se abastecía directamente del mercado (100%), pero en función a que los precios se incrementan, la organización del Comedor se preocupa de gestionar alimentos subvencionados y donados.

Tabla II. Procedencia de los alimentos utilizados en el comedor

Mes	Mercado o/o	Subvencionados o/o	Donados o/o
Marzo	100	-	-
Mayo	58	35	7
Julio	73	20	7
Septiembre	87	13	-

Los alimentos subvencionados disminuyen en la 3ª y 4ª visita debido a que el precio no tiene mucha diferencia con los productos del mercado.

En la Tabla III se compara el costo de venta, costo real, costo subvencionado y el porcenta-

Tabla III. Comparación del costo de venta, real y subvencionado del menú

Mes	Costo de venta l/o	Costo real l/o	Costo subvencionado l/o	Ahorro o/o
Marzo	15,0	11,0	11,0	
Mayo	15,0	15,3	11,5	24,8
Julio	20,0	S/I	S/I	S/I
Septiembre	40,0	30,4	29,9	1,6

• INTI

S/I Sin información.

-64C-

EVALUACION NUTRICIONAL DE UN COMEDOR COMUNAL

je de ahorro que se logra con la subvención. En la primera visita se puede apreciar que existe un margen de "ganancia", concebida como la cantidad de dinero que permite comprar algunos objetos de vajilla para la implementación del comedor.

En la 2da visita, el costo real iguala el costo de venta, por lo que la subvención tiene un efecto importante al permitir ahorrar. En la cuarta visita se produce un incremento importante en el costo de venta con respecto al costo de la visita anterior (100%/o) y el porcentaje de ahorro que aporta la subvención de alimentos es mínimo.

El aporte energético promedio de los menús puede considerarse adecuado, aún cuando el rango de variación fue importante (Tabla IV). Este aporte de energía en parte puede ser explicado por los alimentos subvencionados (arroz, trigo, fideos, harina) y donados (aceite). La capacitación también muestra efectos positivos a partir de la cuarta visita debido a que se mantiene el nivel de aporte calórico a pesar de la inflación. El porcentaje de calorías procedentes de las proteínas se mantiene en promedios aceptables. Destaca el costo de los menús que se incrementa en 180%/o debido al proceso inflacionario que sufrieron los alimentos.

Tabla IV. Comparación de los aportes de energía, porcentaje de energía-proteica y costo por menús

Mes	Energía Kcal	Caloría proteica %	Costo Subvenc. U.
Marzo	699	10,2	11,0
Mayo	1.080	10,1	11,5
Julio	S/I	S/I	S/I
Septiembre	1.036	8,8	29,9

S/I: Sin información.

El mismo análisis según la forma de preparación (sopa y segundo) demuestra una mejor densidad energética en el plato de fondo (aproximadamente 600 vs 250 kcal), mejor aporte de proteínas, a un costo proporcionalmente menor (40 a 50%/o inferior por cada kcal).

Las principales fuentes energéticas corresponden a cereales, tubérculos y azúcares, con un aporte similar en los tres períodos estudiados. Destaca la muy baja participación de grasas y aceites, a excepción del segundo período, en que se produce una donación.

Tabla V. Comparación del aporte energético por grupo de alimentos

Grupo de alimentos	Marzo %	Mayo %	Septiembre %
I. Leche y Deriv.	-	0,2	0,2
II. Huevos	0,2	0,2	0,1
III. Carnes y Deriv.	3,7	3,2	1,5
IV. Cereales y Deriv.	59,9	54,6	60,3
Granos enteros	41,8	43,8	53,7
Harinas	5,4	3,1	-
Pastas	11,7	7,7	6,6
V. Leguminosas	5,0	5,8	6,0
VI. Hortalizas	3,3	3,1	1,8
VII. Tubérculos y raíces	11,4	14,8	16,4
VIII. Azúcares	10,8	7,5	8,8
IX. Grasas y aceites	6,3	10,5	4,9
Total	100,0	100,0	100,0

En la cuarta visita hay una mejor compra de productos alimenticios, lo que permite mantener la calidad de las raciones servidas y hacer un mejor uso del dinero disponible. Por ejemplo no aparece el consumo de harinas, debido al precio elevado que tienen y se incrementa el consumo de granos enteros, que tienen menor precio.

En cuanto a las proteínas (Tabla VI) un 20%/o son de origen animal, predominando las carnes en las primeras observaciones. En la última visita, disminuye el consumo de carne pero se compensa con mayor consumo de huevo y una mejor utilización de los productos vegetales (cereales y leguminosas), lo que permite mantener la calidad nutricional del menú.

Tabla VI. Comparación aporte proteico por grupo de alimento

Grupo de alimentos	Marzo %	Mayo %	Septiembre %
I. Leche y Deriv.	-	0,5	0,5
II. Huevos	0,5	0,8	9,5
III. Carnes y Deriv.	20,0	20,1	9,0
IV. Cereales y Deriv.	50,5	46,1	52,0
Granos enteros	32,7	29,3	43,8
Harinas	6,0	8,6	-
Pastas	11,5	8,6	7,8
V. Leguminosas	15,0	16,1	18,3
VI. Hortalizas	3,0	4,2	3,0
VII. Tubérculos y Raíces	11,0	12,2	17,1
Total	100,0	100,0	100,0

DISCUSION

Los comedores populares son una alternativa para mejorar la alimentación ya que permiten realizar una optimización del consumo en forma colectiva, pero están sujetos a la problemática económica, que muchas veces imposibilita su desenvolvimiento como organización alternativa.

El CEPRED propone esta experiencia como una alternativa metodológica para evaluar este proceso, que no ha sido adecuadamente medido en los aspectos nutricionales (calidad nutritiva de los menús e impacto en el estado nutricional de la población).

Los resultados estuvieron influenciados y determinados por la inflación de precios de los alimentos, que a lo largo del año han tenido un impacto muy fuerte en la economía popular y en la adquisición de los productos alimentarios, ya que los precios se han incrementado en un 100 a 300%. Otro factor importante es la subvención y donación de alimentos, que tienen una presencia importante a partir del segundo mes del seguimiento ya que permite una mejoría nutricional y económica de los menús servidos. Sin embargo la falta de continuidad limita sus beneficios. La subvención de alimentos favorece la compra de algunos productos importantes en los menús, pero se ve condicionada también por la inflación de los precios de los productos alimentarios.

Estos factores permiten demostrar las circunstancias que tiene que afrontar una organización comunal para poder subsistir a la crisis económica, que afecta especialmente estas alternativas de alimentación. Además ilustra cómo ésta organización puede encontrar mecanismos que permiten mantener la calidad nutritiva de sus menús. De hecho el comedor reduce el costo de la alimentación y además ofrece una ración aceptable en energía y proteínas. El mejor rendimiento de las preparaciones lo otorgan los segundos porque existe una mayor concentración energética y proteica.

La subvención y donación de alimentos permite un 25% de ahorro en el costo y tiene un impacto en el aporte de energía, por lo que es importante la presencia de estos programas.

La mayor contribución nutricional, tanto en energía y proteínas está dado por: cereales, leguminosas y tubérculos, que permiten asegurar la calidad nutritiva del menú a menor costo.

La capacitación nutricional, es indispensable para la continuidad de este proceso. Para que pueda tener impacto, debe considerarse un diagnóstico que permita acercarse a la población.

tomar en cuenta su propia realidad y reflexionar sobre ella. De este modo se logrará una mejor orientación y socialización de los conocimientos que existen y que es necesario incorporar como parte de este proceso.

RESUMEN

El propósito del estudio fue evaluar la calidad nutritiva de los menús de un Comedor Comunal de Lima Metropolitana, analizar el efecto de las donaciones y subsidio de alimentos en el costo y medir el impacto de la capacitación en una mejor compra de alimentos. Para ello se evaluó los menús durante una semana cada dos meses y se realizaron acciones de capacitación. Inicialmente todos los alimentos utilizados son comprados, los que después son reemplazados en parte por subvenciones y donaciones. El aporte energético y proteico de la ración se consideró adecuado y mejoró a lo largo del seguimiento a pesar de la fuerte inflación de precios en el período. Las sopas tuvieron un aporte nutricional significativamente menor y proporcionalmente más caro. La principal fuente de energía y proteína está dada por cereales, tubérculos y leguminosas. Al final del período se observó una mejor utilización de los recursos disponibles. Se concluye que el Comedor Comunal es una alternativa de supervivencia que permite mejorar la alimentación y enfrentar la crisis económica en los sectores más necesitados.

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ANNEX 3 .

Information for ICRW

- 1) Research Team
- 2) Journal Articles
- 3) Evaluation of Experience as part of
Maternal Nutrition and Health Care Project (ICRW)

to improvements in dietary intakes as well as help change women's lives through enhancing their control within a community setting.

We found working with ICRW to be extremely helpful. Both from a technical and administrative standing, ICRW provided guidance on the project that was quite useful. Technically, their suggestions on the project were very beneficial, and administratively they were able to provide rapid support.

In terms of the overall Maternal Nutrition and Health Care Project, the only major problem we had was in the time line for the activity. Because of the overall short time for the larger project, activities like ours were limited to conduct of the project and evaluation in a short period of time (about one year). While this may be appropriate for analyses of data, this is too short a time period for small scale project implementation and evaluation. For applied research to be able to assess the impacts of small scale projects, longer time frames will be needed. With short time available, only long term expensive projects will be able to be analysed, because such projects have data ready for analyses, and additional data will not need to be collected. For a program to focus on operational research more consideration will need to be made regarding time lines.

Additionally, the types of specific research designs and discussion of analytical techniques proposed with the Maternal Health and Nutrition Project are more appropriate for detailed analysis of data sets, and less appropriate for evaluations of small scale projects. In some ways, the comparisons of projects supported under this program is

focused more on programs that have high levels of funding. The project may want to reconsider if this is the orientation that is desired. If not, more interest in operational research may be appropriate, still keeping in mind the need for an assessment of impacts of women's time use.