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P.L. 480 TITLE II ACTIVITIES IN PARAGUAY
A Program Evaluation

A report prepared for the internal use of
the Agency for International Development

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by
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INTRODUCTION

This evaluation of the P.L. 480 Title II program in Paraguay was undertaken by Robert R. Nathan Associates, Inc., in response to a direct request from the AID Mission in Asunción. The scope of work, as contained in the Project Implementation Order/Technical Services (PIO/T), calls for the appraisal to focus on the three most substantive aspects of the program: its nutritional contribution to the diet of the target population groups to which the operation is directed; its relation to other nutritional programs in the country, including those both of the Paraguayan Government and of other donor groups; and its mechanical and operational efficiency.

The evaluation was carried out in Paraguay between April 24 and May 19, 1972. Much of the analytical work was undertaken in Asunción, but field trips were conducted with the Departments of Cordillera, Guairá and Concepción for the purpose of observing the operations of both the Title II program and the World Food Program (WFP). A comprehensive listing of the places visited and the individuals contacted is contained in appendix A.

The evaluation team included Roy Brandenburg, food storage and distribution specialist; Professor Paul H. Weswig, nutritionist; and Joseph R. Gunn, economist and team leader. The evaluation was under the general supervision of Jerome Jacobson, Senior Vice President of RRNA in Washington.

The team members wish to acknowledge the cooperation and assistance received from everyone with whom they spoke, particularly Mr. Anthony J. Kranaskas, the Food for Peace Officer in the AID Mission in Asunción, and Mr. Jack Fazio, the Director of the Catholic Relief Services (CRS) program. Although these people were of much assistance, the responsibility for the substance of the report of course rests solely with Robert R. Nathan Associates, Inc.

SUMMARY

The findings and recommendations of this evaluation are drawn from interviews and discussions with representatives of the Ministries of Public Health, Education, and Agriculture (both in the field and in Asunción); from religious and civic leaders in the field and representatives of the U.S. Agency for International Development (USAID), Catholic Relief Services (CRS) and other donor programs; and from an analysis of various operating documents and published statistics. In logical terms the Title II operation in Paraguay was described by AID officials as having the goal of improving the nutritional intake of the people, particularly of the nutritionally neediest population groups. The project's purpose is to effect this improvement directly and to promote greater Government of Paraguay (GOP) efforts toward that end. The high-priority outputs of the program are maternal and preschool child feeding programs and primary school feeding programs, and the inputs are U.S. agricultural commodities, a CRS delivery system, and a GOP financial contribution.

In effect, the evaluation has examined the program from the viewpoint of its efficiency in employing the inputs to yield the outputs. The relationships between the program outputs, project purpose and program goal have similarly been appraised. Essentially, these were the basic issues to which the evaluation scope of work was addressed. Throughout, the evaluation has tried to be responsive to those terms of reference.

It should be noted that a formal AID Logical Framework for project design and evaluation has not been completed for the Title II program in Paraguay. The existence of such a project design summary would greatly assist and expedite future program evaluations, whether

conducted by AID or by outside consultants. Also, the logical framework exercise would almost certainly bring added discipline into program planning and execution by bringing the goals and objectives of the program into sharper relief.

Program Findings and Recommendations

1. The nutritional problems of Paraguay have not changed greatly since 1965, at which time a comprehensive nutritional survey was conducted. The most serious dietary deficiencies are of calcium, riboflavin, and vitamin A. The nutritionally neediest population groups consist of pregnant women, nursing mothers and young children. Nutritional deficiencies are associated with poor economic conditions, and the groups with the greatest need for nutritional supplements are located in the Chaco and in the most rural and remote parts of the other regions of the country.

2. A P.L. 480 Title II program has been operative in Paraguay since 1958. It is directed primarily at the population groups which have the greatest nutritional deficiencies (pregnant and nursing women and young children). It has a secondary target population consisting of community development workers and their dependents.

3. The Title II program reaches the highest priority groups of recipients by working through the schools and the public (and private) health centers. Consequently, all women who are enrolled in clinics in the participating health facilities, and all children who are enrolled in participating schools, are beneficiaries of the program. However, only 25 percent of all primary schools and 37 percent of all public health institutions actually participate in the Title II program. Further, a 2-month spot check revealed that a substantial percentage of the institutions which are considered as "participating" did not actually participate. Thus, the program falls short of its potential targets.

4. Nutritionally, the present program level could be maintained at a greatly reduced cost if greater use were made of blended foods, especially CSM

(corn-soy-milk). CSM was found to be acceptable in the field, and it has great economic advantages over nonfat dry milk.

5. The greatest program deficiencies in terms of geographic coverage occur in precisely those areas which have the greatest need, i.e., in the Chaco and in the most rural parts of the other regions. To a significant degree this stems from the requirements that participating institutions take possession of the commodities at the CRS warehouse, make their own arrangements (at their own expense) for transportation from the warehouse to the point of ultimate consumption, and pay CRS for the containers. These requirements serve to bias the program against the economically disadvantaged and most remote population groups.

6. The charge which is assessed for empty containers should be disassociated from the gift of the food to the recipients. The resulting loss of revenue would probably not exceed the equivalent of \$20,000 and could be made up by an increased commitment by the GOP and/or by an increased CRS contribution.

7. Similarly, ways should be explored to abolish the transportation requirement, so that the commodities are delivered to the recipient institutions at no cost whatever.

8. Improved coverage in the Chaco could be effected by utilizing the health and education facilities of the Mennonites in that area. The Mennonite Central Committee has expressed a keen interest in the program, and efforts should be made to take advantage of the logistical apparatus which exists.

9. As a discrete feeding system, the Title II program is efficient, given the above shortcomings. It has a competent field staff and effective managerial control at the central location. Policy decisions in the field are made by five-man regional committees, composed of representatives of the Ministries of Public Health, Education, and Agriculture, the Church, and the community at large. This committee system is well designed and effective, and should be used also in the Central and Occidental regional programs which are operated out of the Asunción office.

10. The program is adequately tied to nutritional education in the health centers, and nutrition will play an increasingly important role in the schools as new curriculum programs are implemented.

11. The GOP is aware of the nutritional problems of the country and displays a positive attitude toward their solution. It does not, however, appear to have a sense of commitment toward nutritional matters. It does not assign a high priority to nutritional problems, and its programs in this area are often disjointed and diffuse. Three GOP Ministries (Public Health, Education and Agriculture) are all directly involved in the area of nutrition, but their efforts are not properly coordinated. One GOP agency, the Programa de Alimentación y Educación Nutricional (PAEN) is a potential focal point for such interministerial coordination, but does not possess the requisite strength or substance.

12. The GOP contribution to the Title II program is not great in terms of personnel and is positively inadequate in terms of finance. The GOP input evidently reflects the priority which the GOP attaches to nutrition in general and to the Title II program in particular.

13. Efforts should be made by AID and CRS to involve the GOP more fully in the program. Particularly at the operation planning stage, greater GOP participation would lead to greater GOP interest in, support for, and possibly contribution to the program.

14. There is no evidence whatever of either ability or interest on the part of the GOP to assume significantly greater responsibility for the implementation of the program. Here also, PAEN may in the future possess the requisite skills, but, despite its 12-year history, it remains too fragile an organization to do so at this time.

15. The greatest opportunities for coordinating the Title II program with other AID activities lie in the area of population and family planning. Ways should be sought to increase the utilization of Title II commodities as the AID-assisted family planning program expands.

16. Opportunities for coordinating the Title II operation with other donor programs appear to be greatest in the cases of the Mennonites and the WFP. To the extent that Title II and WFP goals are complementary, efforts should be made to develop complementary programs. For example, land resettlement schemes could employ WFP funds for economic development purposes and Title II commodities for health and school feeding programs.

17. The mechanics of the program are good. The physical distribution system is efficient, although CRS has no control of the commodities from the time they are removed from the warehouse by the recipients. The abolition of the requirement that the recipient assume sole responsibility for the final transportation of the commodities would be desirable from the standpoint of extending CRS control to the recipient institution itself.

18. Storage and warehousing methods and facilities are generally adequate. Some improved methods of controlling insect and rodent infestation should be adopted; these can be implemented without any disruption of current activities.

I. THE NUTRITIONAL SITUATION

Review of 1965 Survey

1/A nutrition survey of Paraguay was conducted in 1965. A total of 33 geographically dispersed locations were selected for this in-depth survey. It was concluded that although Paraguay was endowed with many natural agronomic advantages, there was still evidence of both primary and secondary nutritional problems. In terms of primary malnutrition, iodine deficiency (as evidenced by goiter) was common, and riboflavin, calcium and vitamin A were at low levels in the diet. These deficiencies may also have resulted in such symptoms of secondary malnutrition as retarded growth in infants and delayed maturity and shorter stature in Paraguayans in general.

Dietary adequacy was found to be related to the degree of urbanization as well as to the economic level of the household. On the average, most diets contained a satisfactory level of most of the nutrients other than riboflavin, calcium, and vitamin A, although a wide range in values was found. Thus, in many instances the minimum range indicated that pockets of malnutrition existed in many of the areas studied. It was observed that an Indian settlement near Mariscal Estigarribia "existed in apparent abject poverty." The diet of this area, part of the Chaco, also had the greatest average number of nutrients below the estimated requirements, with only protein, iron and vitamin C exceeding the 100

1/ Nutrition Survey, Republic Of Paraguay, May-August, 1965, U.S. Department of Health, Education, and Welfare, Public Health Service, August 1967.

percent estimated requirement. Other geographic subdivisions with diets containing less than 95 percent of the estimated requirements of the various nutrients were Villa Hayes with five, and Villeta, Caacupé-Tobatí, Caaguazú and Pilar with three each. Calcium, vitamin A and riboflavin were below 95 percent of the estimated requirements in about half of the 14 geographical subdivisions, indicating the general lack of these nutrients throughout the country as a whole, but particularly in the more rural areas. These nutrients usually occur in greatest amounts in meat, eggs, and dairy products, the consumption of which is lower in the more rural areas. It should be noted that this survey occurred during the more favorable part of the year and that the seasonal effect was not determined. Of interest too is the fact that in the 1965 survey, powdered milk (from Argentina) was reported as a part of the diet in only three geographical locations, and constituted a very minor contribution of 4 grams as the maximum.

Procedures of 1972 Survey

The present nutritional status of the Paraguayan people was assessed through the use of (1) recent reports containing factual data concerning the consumption of critical dietary nutrients such as meat, eggs and dairy products, and (2) observations and interviews with those in the field knowledgeable with respect to recent nutritional trends.

Reports

Mitchell^{1/} in a recent report stated that "considering the per capita income and countries of similar income, nutrition in Paraguay is relatively good but not perfect." In considering meat purchases he found that the average household bought from 1.2 to 1.4 kilograms daily, with the average family size being from 5.8 to 6.4 persons per household. This would indicate a daily per capita consumption of about 200 grams of

^{1/} G.H. Mitchell, Food Marketing in Asunción, Paraguay, National University, San Lorenzo, Paraguay, 1971.

meat, which is about the same per capita intake as the figure shown for an urban household in the 1965 survey (180 grams edible meat). This figure is considerably larger than that reported by Ceuppens,^{1/} who found that the daily per capita consumption of meat declined from 128 grams in 1940 to slightly over 100 grams in 1970. Arnold,^{2/} on the other hand, estimates the total meat (beef) consumption of Paraguay will increase from 143,500 metric tons in 1968 to 167,804 in 1973. This is a gain of over 24 percent in 5 years, which would not indicate a decline in the daily per capita consumption of meat.

With respect to the other critical food class -- dairy products -- Mitchell^{3/} found the average family bought 1.6 liters per day of fresh milk, or about 250 milliliters per person per day. In the 1965 survey, it was found that urban households consumed about 150 milliliters per day, so the consumption of milk has increased markedly in the urban areas. However, rural areas probably still have less than one-half the intake of urban areas.^{4/} Arnold indicates that the per capita consumption of milk is lower than that normally recommended for good health. However, Arnold points out that to provide 1 pint per person per day (450 grams), the total milk supply would require a five-fold increase. Therefore we conclude that the overall average intake of milk in Paraguay is less than 100 milliliters per person per day. Future reports will undoubtedly consider the recent increased costs of meat and dairy products, which will have their effect on the potential spending for these more nutritionally critical foods.

Field Observations

It was most encouraging to hear from Dr. Hugo Miranda, Director del Departamento de Nutrición, and former co-director for the 1965 survey, that the

1/ H. Ceuppens, Paraguay - Año 2000, Asunción, July 1971.

2/ A.F. Arnold, An Agricultural Policy Statement for Paraguay: A Case Study, USDA/PASA/USAID, Asunción, March 1970.

3/ G.H. Mitchell, op cit.

4/ Nutrition Survey, Republic of Paraguay, May-August, 1965.

incidence of thyroid goiter was now about one-half that which was found during the 1965 survey. He concluded this from limited surveys which had recently been made in Asunción, San Lorenzo and Coronel Oviedo. This would indicate that the iodization of salt has recently played a significant role in the control of this deficiency disease. It must also be remembered that blended foods used in the Title II program (corn-soy-milk [CSM] and wheat-soy blend [WSB] contain added trace minerals including from 40 to 100 micrograms of iodine per 100 grams blended food,^{1/} and this could also contribute to the reduction of this thyroid condition. However, in Dr. Miranda's opinion, the nutritional deficiencies (namely of vitamin A, riboflavin and calcium) reported in the 1965 survey still exist in the field.

In Concepción, Dr. Santiago Cudas stated that, since people there were taller than in Asunción, protein deficiency was evidently not a nutritional problem. He felt, however, that chailosis, diarrhea, high temperatures, and infant mortality reflected inadequate nutrition. In addition, the reported increase in Concepción of the percent of low birth-weight infants -- babies weighing less than 2,500 grams -- was of interest (table 1).

Table 1. Numbers and Percentages of Low Birth-Weight Infants, 1967-70

Year	Low birth-weight infants	
	Number	Percent of total
1967.....	20	3.1
1968.....	25	4.0
1969.....	26	4.5
1970.....	44	5.9

^{1/} F.R. Senti, Protein Enriched Cereal Foods for World Needs, American Association of Cereal Chemists, Inc., St. Paul, Minnesota, 1969.

The figures in table 1, if they truly represent the national situation, are of importance in that they seem not only to reflect on the nutritional inadequacy of the mother but also to suggest that there could be a relatively high incidence of physical and mental handicaps in infants of low birth weights.^{1/} Nutrition plays an important role in the ultimate development, both statural and neurological, of these undersized infants, and the importance of skilled direction in the art of feeding these infants safely and effectively cannot be overemphasized. It would also seem that these data tend to reaffirm the fact brought out in the 1965 survey that secondary malnutrition in the form of "retarded growth, delayed maturity and short ultimate stature of many Paraguayans" may start with mothers during pregnancy and may adversely influence the utilization of nutrients by the child as he matures.

It must also be noted that in the 1965 survey some concern with respect to these secondary malnutrition symptoms was expressed in relation to the size of sample collected, the averaging of all regions of the country, and the fact that each age in cross-sectional data represents a cohort whose growth may have been influenced by a unique environmental factor of national scope (for example, climatic condition, national crisis or disturbances). Confirming data should now be readily available at all health centers where babies are weighed and measured at monthly intervals initially and at less frequent intervals at later ages. However, the data from Concepción regarding the increased number of low birth-weight infants is nutritionally disturbing.

Information concerning nutritional adequacy was also obtained at the community level from individuals on the local CRS committee, schoolteachers or other concerned citizens. Many of these individuals had to determine who the undernourished children in the vicinity were and how Title II commodities could make the greatest impact with all priority groups of recipients. It was the consensus that for a variety of reasons such as poor transportation, the partial absence of market structures, non-school participation, etc.,

^{1/} R. B. Goldbloom, "Nutritional Needs of Low Birth Weight Infants," Proceedings of the Association of Western Hemisphere Nutrition Congress, Vol II, 1968, pp. 14-18.

rural families constituted the greatest need. In more urban areas, there appear to be pockets of malnutrition where socioeconomic conditions of the families emphasize the need for Title II commodities.

While protein deficiency has not been considered a nutritional problem in Paraguay, the situation may be changing, particularly for the very destitute. The price of meat without bone in Concepción -- and it is much the same countrywide -- rose from ¢55 per kilogram in 1970 to ¢70 in 1971 and to ¢100-¢110 in 1972.^{1/}

A person with a fixed income will be able to purchase only one-half as much meat today as he could 2 years ago and may thus be deprived of the excellent nutrient contribution of meat. The other classes of food which help overcome the nutritional deficiencies noted are dairy products, with milk selling at ¢15-¢25 per liter, and eggs, which cost about ¢5 each.

Summary

In summary it would appear that the nutritional status of the people in 1972 has changed for the better with respect to iodine deficiency. The other primary and secondary malnutrition deficiencies noted are much the same as those reported in the 1965 nutrition survey, with the most needy population groups living in the Chaco and in the more rural and remote areas of other regions of the country.

^{1/} Meat with bone is generally priced at ¢70 per kilogram at the present, compared with around ¢50-¢55 per kilogram 1 year ago.

II. THE TITLE II PROGRAM

Introduction and Description

The U.S. Government has been providing food-stuffs to supplement the diets of particular target population groups in Paraguay since 1958. Title II of U.S. Public Law 480 makes certain agricultural commodities available on a grant basis for certain purposes,^{1/} and the program in Paraguay has been directed primarily toward supplementing the diets of needy pregnant women and lactating mothers and their preschool children, and of primary-school children. In addition, some community development projects and other institutional feeding programs have been included.

In terms of dollars and recipients, the historical dimensions of the program, together with the anticipated value through fiscal year 1973, are contained in tables 2 and 3, respectively. As these tables indicate, the present value of the program is around \$1 1/4 million per year, and it annually reaches around a quarter of a million people.

The value of the program has fluctuated more than the number of recipients. This fact reflects the

1/ Purposes: (1) To meet famine or other urgent or extraordinary relief requirements; (2) to combat malnutrition, especially in children; (3) to promote economic and community development in friendly developing areas; and (4) for needy persons and nonprofit school lunch and preschool feeding programs outside the United States. (Public Law 480, 68 Stat. 454 as amended, Sec. 201.)

Table 2. Program Dimensions, P.L. 480 Title II - Paraguay,
Fiscal Year 1958-73

Fiscal year	Recipients	Quantities shipped	Value f.o.b. U.S.	Shipping costs	Value c.i.f. Asunción
	(number)	(pounds)	----- dollars -----		
1958.....	30,000	2,954 (gross)			2,129
1959.....	35,810	1,679,853			243,563
1960.....	71,620	6,976,307			628,901
1961.....	105,920	12,191,062			1,448,983
1962.....	156,820	15,213,335			2,689,150
1963.....	181,520	16,931,000			1,800,000
1964.....	186,100	37,153,000 (net)	942,937	265,745	1,208,682
1965 ^a /.....	97,220	2,735,000	384,140	111,684	495,824
1966.....	122,100	7,181,000	368,213	122,346	490,559
1967.....	191,000	10,104,000	669,321	182,930	852,251
1968.....	223,000	10,104,000	590,791	192,336	783,127
1969.....	223,000	10,135,000	1,197,721	299,947	1,497,668
1970.....	259,450	4,974,391	468,078	153,622	621,700
1971.....	259,450	8,479,650	1,144,513	291,407	1,435,920
1972 ^b /.....	246,445	6,519,014	1,029,182	257,683	1,286,865
1973 ^c /.....	275,130	8,875,000	1,616,506	364,310	1,980,816

^a/ Approved Annual Estimates of Requirements for FY 1965 covered only from January 1 to June 30, 1965. The period from July 1 to December 31, 1964, was an extension of FY 1964 program for first and second quarter.

^b/ Partially estimated.

^c/ Estimated.

Source: USAID/Asunción Food-for-Work Office.

Table 3. Annual Estimates of Recipients, P.L. 480 Title II-
Paraguay, FY 1968-73

(In number of persons)

Recipient	1968	1969	1970	1971	1972	1973
Mothers/preschool-age children.....	36,000	36,000	40,000	40,000	40,000	60,000
School feeding.....	125,000	125,000	160,000	160,000	150,000	160,000
Other child feeding.....		5,000	4,000	9,450	10,179	19,019
Economic/community development						
Workers.....		7,000	8,500	7,000	7,000	5,000
Dependents.....		42,000	51,000	42,000	35,000	25,000
Institutions.....	4,500	3,700	3,700	--	1,110	852
Others.....	1,000 ^{a/}	3,500 ^{b/}	1,000 ^{a/}	--	560 ^{a/}	2,295 ^{a/}
	3,500 ^{b/}	1,000 ^{d/}	3,500 ^{b/}	--	859 ^{f/}	870 ^{f/}
	56,000 ^{c/}	--	1,200 ^{e/}	--	1,737 ^{g/}	2,094 ^{h/}
Total.....	226,000	223,200	272,900	258,450	246,445	275,130

a/ Summer camps.

b/ Boarding schools.

c/ Of which 49,000 were denoted as "self-help"; 3,000 were denoted as "individual health cases"; 4,000 were denoted as "persons served at feeding stations."

d/ Health cases.

e/ Orphanages.

f/ Vocational training centers.

g/ Of which 787 were denoted as "minor seminaries" and 950 as "homes for needy children."

h/ Of which 614 were denoted as "minor seminaries" and 1,480 as "homes for needy children."

Source: Annual Estimates of Requirements.

constantly shifting prices which the United States must pay for agricultural commodities and the fluctuations in transportation costs. The number of beneficiaries reached by the program has been fairly stable since 1968, and there is some doubt as to whether present distribution channels and methods could efficiently reach greatly increased numbers of recipients.

Regarding the manner in which Title II programs are implemented, the law permits the utilization of the facilities of the recipient government and/or other agencies, including intergovernmental agencies, but stipulates that "The President shall, to the extent practicable, utilize nonprofit voluntary agencies registered with, and approved by, the Advisory Committee on Voluntary Foreign Aid."^{1/} To this end, AID/Paraguay has utilized the distribution facilities of two Roman Catholic agencies, CARITAS and CRS. CARITAS distributed Title II commodities through calendar year 1969. At that time certain political tensions between the Church and the GOP caused the CARITAS/GOP operating agreement to be ended and the Title II program to be temporarily suspended. In early 1970 CRS created an operating structure and mechanism to replace that of CARITAS, and Title II operations were resumed during the latter part of that year.

In addition to distributing Title II commodities, CRS, through its network of warehouses and facilities, distributes used clothing, books and medicines which it receives from charitable organizations in the United States. Its overall operations in Paraguay are governed by an agreement between it and GOP dated September 12, 1962.

More specifically, however, the present parameters of the Title II program are contained in the Project Agreement (ProAg) (Project No. 526-15-580-085.1, Agreement No. 7, FY 1972) signed on December 31, 1971, by representatives of AID, CRS and the GOP Ministries of Foreign Affairs, Finance, Education and Worship, and Public Health and Social Welfare. The most essential elements of that ProAg call for the GOP to expedite

^{1/} Public Law 480, 68 Stat. 454, as amended, Sec. 202.

customs liberation of incoming goods; to provide (when available) inland rail and river transportation of the goods to CRS regional warehouses; to provide free office space and utilities to CRS; to appoint coordinators from each of the GOP Ministries; and to allocate ø11.7 million (approximately \$93,000)^{1/} toward meeting the estimated CRS local budget of ø16.2 million (approximately \$128,000), the balance to be generated by the program itself from the sale of the food containers to the recipients.

The contact point between CRS and the USAID Mission in Paraguay is the AID Food-for-Peace Office, which is physically situated in the Ministry of Public Health and Social Welfare building. The AID Food-for-Peace Officer has a number of responsibilities, but his largest single concern is the P.L. 480 Title II program. (One major program area falling within the purview of the Food-for-Peace Officer deals with population and family planning. The recent arrival in Ascunción of an AID population officer will permit the Food-for-Peace Officer to concentrate even more heavily on the Title II activities.) There is good liaison and close personal rapport between the Food-for-Peace Officer and the CRS Director, and a skilled Food-for-Peace Office staff at the Ministry of Public Health provides efficient administrative assistance and support.

On balance, the AID personnel input into the operational aspects of the Title II program appears adequate. However, more time could usefully be spent by the Food-for-Peace Officer on improving relations between the program and the GOP, particularly insofar as program planning is concerned. Also, as noted below (chapter V), closer coordination between the Title II program and other donor programs in the general area of nutrition is desirable, and the services of the Food-for-Peace Officer should be used to effect such coordination.

^{1/} The conversion rate of guaranis to dollars used throughout this report is the official rate of ø126 = \$1.00.

Present Size and Scope of Program

A comprehensive description of the present program is contained in the CRS Program Plan of Operation, a document which is prepared for, and submitted to, AID on an annual basis. Essentially, the program is designed to reach the target population groups given in table 4.

Table 4. Estimated Number of Recipients, FY 1972

Recipients	Number
<u>Mothers/preschool children</u>	
Mother.....	13,328
Preschool children.....	26,672
Total.....	40,000
School feeding.....	150,000
<u>Other child feeding</u>	
Feeding centers.....	9,727
Nurseries.....	335
Day centers.....	117
Total.....	10,179
<u>Economic/community development</u>	
Workers.....	7,000
Dependents.....	35,000
Total.....	42,000
<u>Other feeding programs</u>	
Orphanages.....	878
Homes for handicapped children.....	332
Vocational training centers..	859
Minor seminaries.....	787
Homes for needy children.....	950
Summer camps.....	560
Total.....	4,366
Grand total.....	246,545

Source: Annual Estimates of Requirements, FY 1972, and the CRS 1972 Program Plan of Operation.

In line with AID program priorities, the CRS program plan for FY 1973 calls for increased attention to mothers and preschool children, while the contributions to economic and community work programs and institutional feeding programs will be reduced (table 5).

Table 5. Estimated Number of Recipients, FY 1973

Recipients	Number
<u>Mothers/preschool children</u>	
Mothers.....	20,594
Preschool children.....	39,406
Total.....	60,000
School feeding.....	160,000
<u>Other child feeding</u>	
Feeding centers.....	18,410
Nurseries.....	378
Day centers.....	231
Total.....	19,019
<u>Economic/community development</u>	
Workers.....	5,000
Dependents.....	25,000
Total.....	30,000
<u>Other feeding programs</u>	
Orphanages.....	622
Homes for handicapped children..	230
Vocational training centers.....	870
Minor seminaries.....	614
Homes for needy children.....	1,480
Summer camps.....	2,295
Total.....	6,111
Grand total.....	275,130

Source: Annual Estimates of Requirements, FY 1973, and the CRS 1973 Program Plan of Operation,

In point of fact, it must be noted that the actual number of recipients deviates rather substantially from the estimated number. CRS officials state that data on actual recipients are not compiled on an annual basis. Records are available on a monthly basis,

however, and an examination given in table 6 of the data for September 1971 and March 1972 reveals the differences from the Annual Estimates of Requirements (AER) data.

Table 6. Differences Between AER Estimated Recipients and Actual Recipients in September 1971 and March 1972

Recipients	AER estimates	September 1971 actual		March 1972 actual	
		Number	Pct. of AER	Number	Pct. of AER
Mothers/pre-school children.....	40,000	28,441	71	28,970	72
School feeding..	150,000	134,587	90	85,022	57
Econ./comm. dev.	42,000	35,009	83	44,758	106
Others.....	14,445	12,187	84	13,985	97
Total.....	246,445	210,224	85	172,735	70

The large difference in the preschool feeding figure for March 1972 probably reflects the fact that the school year was just getting underway at that time. (Paraguayan schools have summer vacations in December, January and February.) The causes for the other differences are not fully known, but the differences themselves make it clear that the program is not reaching as many recipients as it is designed to reach.

Where the program's relative coverage of public versus private institutions can be measured, it appears to be well balanced. A valid comparison of such coverage can be made in the school feeding operation, since the number of public and private schools is reported by the Ministry of Education. As Table 7 reveals, the CRS program reaches 26 percent of the public schools and 24 percent of the private schools.

Table 7. Schools Participating in P.L. 480 Title II -
Paraguay Program, FY 1972

(In number and percentage of total schools)

Departments ^{a/}	Public schools			Private schools			Total		
	Total in country	Participating	Percent participating	Total in country	Participating	Percent participating	Total in country	Participating	Percent participating
Asunción & Central...	437	90	21	144	38	26	581	128	22
Concepción, San Pedro & Asambay...	382	126	33	16	7	44	398	133	31
Cordillera...	271	76	28	23	8	35	294	84	29
Guairá & Caazapa.....	352	95	27	14	6	43	366	101	28
Caaguazú.....	231	56	24	50	1	2	281	57	20
Itapúa.....	304	88	29	45	2	4	349	90	26
Misiones & Neembucú.....	247	72	28	10	2	20	257	74	29
Paraguari.....	321	45	14	13	4	31	334	49	15
Alto Paraná..	67	27	40	40	19	47	107	46	43
Pte. Hayes, Boquerón & Olimpo.....	64	4	6	14	3	21	78	7	9
Unidentified by department.....	--	4	--	--	--	--	--	4	--
Total.....	2,676	683	26	369	90	24	3,045	773	25

^{a/} As defined and delineated by the Ministerio de Educación y Culto.

Sources: Total in country -- Ministerio de Educación y Culto, Dirección de Planeamiento Educativo, Estadística Educacional Paraguay, Año 1970; Participating Schools -- CRS, Title II Program: Paraguay, Program Plan of Operation for Fiscal Year 1972, Appendix II.

A similar comparison of public versus private institutions reached in the mother/preschool child feeding program cannot be made, as statistics are not available on the total number of private health institutions in Paraguay. However, 37 percent of all public institutions participate (table 8).

In terms of individual participants at health centers, reliable measurements are difficult to make, as hospitals and health centers may keep records on a gross-count basis and thus may record a patient more than once. Data published by the Ministry of Public Health indicate that in 1971 a total of 42,820 new admissions or enrollments were recorded under the category of maternal clinics.^{1/} This figure may be taken as a crude "universe" against which the public portion of the CRS health center program may be measured. For FY 1972 CRS estimated participation by 7,155 mothers in this category, or around 17 percent of the potential. In FY 1973 CRS plans to reach 15,434 mothers. This goal, if realized, would represent approximately one-third of the new registrants for that year, as the number of total new registrants has been growing at less than 1 percent per year since 1967.

Organizationally, the country is divided into eight regions.^{2/} Operations in each region (or sub-region) are governed by a five-man committee representing the Ministries of Health, Agriculture, and Education, the Church and the community at large. Day-to-day program implementation is carried out by a small (usually two-man) staff of full-time salaried personnel. Each

1/ Ministerio de Salud Pública y Bienestar Social, Dirección de los Servicios Normativos, Prestados en Centros de Salud y Puestos Sanitarios, Año 1971, Publicación No. 13, Abril 1972.

2/ The regions are: Central (Capital Asunción); Carapeguá (Carapeguá); Del Guairá (Villarrica); De la Cordillera (Caacupé); Caaguazú-Alto Paraná; Del Sur; Del Norte; and Occidental (Asunción). Caaguazú-Alto Paraná, Del Sur and Del Norte are subdivided into three, two, and two subregions, respectively.

Table 8. Public Health Facilities Participating in
P.L. 480 Title II - Paraguay Program, FY 1972
(In number and percentages of total facilities)

Sanitary region ^a	Centros de Salud			Puestos Sanitarios			Total		
	Total in country	Participating	Percent participating	Total in country	Participating	Percent participating	Total in country	Participating	Percent participating
I.									
a. Cordillera..	11	8	73	--	--	--	--	--	--
b. Paraguari...	9	5	56	--	--	--	--	--	--
Total.....	20	13	65	17	1	6	37	14	38
II.									
Total.....	9	7	78	15	11	73	24	18	75
III.									
a. Itapua.....	7	--	--	--	--	--	--	--	--
b. Misiones....	4	--	--	--	--	--	--	--	--
c. Neembucú....	3	--	--	--	--	--	--	--	--
Total.....	14	--	--	26	1	4	40	1	3
IV.									
a. Concepción..	4	3	75	--	--	--	--	--	--
b. Amambay.....	2	2	100	--	--	--	--	--	--
Total.....	6	5	83	19	4	21	25	9	36
V.									
a. Asunción....	13	5	38	--	--	--	--	--	--
b. Interior....	12	5	42	--	--	--	--	--	--
Total.....	25	10	40	25	1	4	50	11	22

Continued. . . .

Table 8. Public Health Facilities Participating in P.L. 480 Title II - Paraguay Program, FY 1972 (continued)

(In number and percentages of total facilities)

Sanitary region ^{a/}	Centros de Salud			Puestos Sanitarios			Total		
	Total in country	Participating	Percent participating	Total in country	Participating	Percent participating	Total in country	Participating	Percent participating
VI.									
a. Caaguazú- Alto Paraná...	8	7	87	--	--	--	--	--	--
b. S. Estan- islao.....	5	4	80	--	--	--	--	--	--
Total.....	13	11	84	25	4	16	38	15	39
Unidentified by region.....	--	9	--	--	2	--	--	11	--
Grand total.....	87	55	63	127	24	19	214	79	37

^{a/} As defined and delineated by the Ministerio de Salud Pública y Bienestar Social.

Source: Participating institutions -- CRS, Title II Program: Paraguay, Program Plan of Operation for Fiscal Year 1972, Appendix I; total institutions -- Ministerio de Salud Pública y Bienestar Social, Dirección de los Servicios Normativos, Servicios Prestados en Centros de Salud y Puestos Sanitarios, Año 1971, Publicación no. 13, Abril 1972.

regional committee identifies the institutions (or, in the case of economic/community programs, the projects) which are to participate. Field discussions with representatives of participating (and several nonparticipating) institutions and regional committee members indicate that the selection of participants is based largely on apparent need, though there were no reports of a request for participation having been denied because of affluence.

The several regional programs, prepared at the field level, are consolidated by CRS in Asunción, modified as necessary to conform to the indicated availability of commodities and submitted to AID/Asunción for approval or further modification prior to mission transmittal to Washington.

It must be noted that the criterion of need, as established by the regional committees, is necessarily biased by the CRS requirement that any participating institution must (1) collect the commodities at the CRS regional warehouse and pay all costs from there to the point of ultimate destination, and (2) pay CRS for the containers in which the commodities are packaged. The requirement to purchase all containers is made even more onerous by the fact that the prices charged are, in most cases, in excess of the market value of the containers. Both these requirements, it must be stressed, serve to bias the entire program away from the economically neediest groups. The financial requirements of operating the program must be acknowledged and met, but the container charge (which, at best, recovers only the equivalent of around \$35,000 of a program where total cash value is around \$1.25 million) is economically counterproductive and should be abolished.

It should be emphasized that it is not the sale of the empty containers per se which is objectionable, but rather the tying of their sale to the gift of the containers' contents. If CRS itself were to sell the containers on the open market, the present program bias would be removed, though a substantial portion of the present revenue from that source might still be realized. A very rough estimate is that perhaps half of the present income would still be recovered if the containers were sold by CRS on the open market. Thus, the shortfall would approximate no more than \$20,000.

The cost which would be involved in providing transportation from the CRS warehouses to the recipient institution cannot be determined precisely without a detailed traffic analysis and the development of a cost model, neither of which were possible within the context of the present evaluation. However, CRS officials have estimated that the value of the transportation of the commodities from the warehouses to their destination is \$42,000 per year (in FY 1972).^{1/} This represents an additional \$5.3 million which would have to be obtained elsewhere if the commodities were to be provided free to the recipients.

Two alternative revenue sources suggest themselves. The first of these is the GOP. The ProAg does not reveal the rationale underlying the \$11.7 million/\$4.5 million distribution by source which composes the total operating budget. The entire amount could conceivably be paid by the GOP, however, and would represent less than 5 percent of the value of the program. More realistically, if the GOP were to cover only the shortfall which would result from CRS's shifting to an untied, open market sale of containers, the increased burden would be around only \$2 1/2 million.

The other possible source is CRS itself. At the present time, the only unrecovered CRS input into the entire program consists of the salaries of the two American personnel and the bilingual secretary. Data on the overall financial resources of CRS are not immediately available, but the possibility of a greater contribution from that source would seem worth pursuing.

It should also be pointed out that the organizational structure of the regions, which relies on a five-man representative committee for certain major policy matters, is modified rather considerably in the case of the Central and Occidental regions, which are operated out of Asunción.

There is a committee in the capital, as in other regions, but its composition is not as precisely divided

^{1/} CRS Program Plan of Operation, FY 1972, p. 26.

among the five representative interest groups as is the case in the other regions. In effect, the CRS central staff is responsible for all major policy decisions concerning the operation of the Central and Occidental programs, and the committee, when it functions at all, does so as something of a rubber stamp. The distinction between the composition and modus operandi of the regional committees and the central office is the more significant because about one-third of the entire Paraguayan Title II program is conducted from the Asunción office.

Field interviews indicate that the regional committee is a viable instrument for decision-making at the regional level, and should be retained. The committees usually meet once each week and not less than twice a month. The activities of the committees create an atmosphere of self-help and community cohesion which apparently assists CRS materially in maintaining a sort of "middle of the road" position between Church and GOP within these regional areas. Also, it must be emphasized that the regional committee structure was devised precisely to overcome certain characteristics of the CARITAS system and to make CRS a more acceptable organization to the GOP. Thus, to have one-third of the countrywide program operated through a device which, on its face, is no more broadly based than the CARITAS system seems ill advised.

Relation to Other USAID Programs

In appraising the Title II activities in Paraguay in relation to other AID programs, opportunities for integration appear limited, although an appraisal of the entire AID effort in Paraguay was well beyond the scope of work of this evaluation. The agricultural programs in which AID is involved, for example, are of a nature and scale which do not readily lend themselves to the kind of food-for-work activities in which Title II commodities might be employed to any significant extent.

Some relation between Title II and the educational activities of AID might be effected by trying to coordinate school construction with school feeding programs. Also, the possibility of using Title II commodities in

food-for-work projects to effect school kitchen construction should be explored. While such projects would normally be regarded as having a lower priority than mother/child health and school feeding programs, the consequences of school kitchen construction projects are clearly in concert with the overall Title II goals.

The construction of school kitchens in the Ministry of Education's school-building program is a development which should be promoted and encouraged. At present the WFP, in its school feeding operations in the Cordillera, is insisting that school kitchens be constructed before a school is eligible for participation in that program. In the schools which were visited, the kitchens were in fact constructed by the community, using volunteer labor. The WFP school lunch itself is a complete meal, it should be noted, as distinct from the dietary supplement which the Title II glass of milk affords, and the WFP no doubt has more leverage in insisting on conditions for program participation. Nevertheless, it may be that closer liaison between the Title II operation and AID education interests could profitably be developed.

A natural opportunity for program integration would appear to be the population/family planning efforts, in which the United States has a substantial interest, and the Title II program, with the participating public health institutions serving as the focal point. There is, even now, some coordination between these programs, since 13 family planning clinics operated under the Ministry of Public Health's program "Población y Nutrición" dispense Title II milk and oats to women who participate in the series of courses offered at the clinics (and who, interestingly, need not be either lactating or pregnant or mothers to participate). Efforts should be made to continue this association as the number of family planning clinics expands. It may be necessary to operate this portion of the Title II program through a government-to-government agreement, as ideological issues may preclude the necessary cooperation coming from CRS.

Nutritional Adequacy of Title II Foods

"In order to assure maximum accomplishment and lasting impact, Title II programs are expected to supplement and reinforce other nutritional and developmental activities in the recipient country."^{1/} In the case of Paraguay this means that Title II foods should make a significant contribution in supplementing the calcium, vitamin A and riboflavin intake of the rural pregnant and nursing mothers, the preschool children and the primary-school-age children. The total daily nutritional contribution for the various USAID priorities is shown in table 9, with the individual contribution of each item being listed in appendix B, tables B-2 through B-8. The approximate percent contribution towards the critical nutrients of the Paraguayan diet based on the daily recommended dietary allowances^{2/} indicates a very substantial contribution towards the calcium intake (from 20 to over 50 percent), an even greater contribution to the riboflavin intake (from 20 to about 100 percent), and a smaller but significant supplement to the vitamin A intake (from 8 to 30 percent) (table 10).^{3/}

One can therefore conclude that the Title II Priority Program as planned contributes significantly to the dietary essentials which are low in the average Paraguayan diet, as described in chapter I. These commodities are of particular benefit to pregnant women and nursing mothers, to their preschool children, and to primary-school-age children in supplying the critical nutrients so essential to these groups, which have properly been assigned a high priority in the Paraguayan Title II operations.

^{1/} AID Manual Circular 1571.1, effective January 24, 1972, item IID.

^{2/} Recommended Dietary Allowances, 7th ed., Publication No. 1694, National Academy of Sciences, Washington, D.C., 1968.

^{3/} It must be emphasized that the vitamin A contribution is not provitamin beta but preformed vitamin A, which is much more readily available and would actually constitute a metabolically greater percent contribution than indicated.

Table 9. P.L. 480 Title II - Paraguay Daily Nutritional Contribution
(USAID priority rating and description)

Description and unit	IA ^{a/}	IB ^{b/}	IB ^{c/}	IC ^{d/}	IC ^{e/}	IC ^{f,g,h/}	II ^{i/}
Amount (g.).....	63	116	91	46	143	193	106
Energy (cal.).....	238	485	388	173	609	790	432
Protein (g.).....	15.5	19.5	16.0	13.1	24.6	31.7	13.2
Fat (g.).....	2.6	13.5	11.7	1.4	18.9	20.3	10.2
Carbohydrate (g.).....	38.1	70.7	53.7	26.9	85.5	120.4	71.2
Calcium (mg.).....	410	413	400	401	582	701	184
Phosphorous (mg.).....	437	447	346	370	578	696	222
Iron (mg.).....	1.7	2.7	1.6	0.9	8.7	13.1	8.2
Sodium (mg.).....	161	162	161	161	257	308	96
Potassium (mg.).....	640	659	571	582	853	991	286
Magnesium (mg.).....	90	91	55	66	138	173	76
Vitamin A (I.U.).....	660	660	660	660	1,307	1,583	647
Vitamin E (I.U.).....	0.9	2.2	-	0.4	5.5	7.5	4.6
Vitamin C (mg.).....	2.1	2.1	2.1	2.1	15.1	21.7	13.0
Thiamine (mg.).....	0.31	.48	.33	.21	.63	1.12	.49
Riboflavin (mg.).....	0.58	.70	.67	.56	.87	1.06	.35
Niacin (mg.).....	0.6	2.3	2.0	.45	4.5	7.0	4.6
Folic acid (mg.).....	0.012	0.012	.005	.006	0.112	0.169	0.108
Vitamin B ₆ (mg.).....	0.15	.17	.14	.13	1.96	.48	.23
Vitamin B ₁₂ (mcg.).....	0.96	.96	.96	.96	.96	3.02	1.39

a/ 12-month-per-year program for pregnant and nursing mothers and their preschool-age children.

b/ 9-month-per-year program for school-age children; 20 school days/month.

c/ 9-month-per-year program for school-age children; 20 school days/month Ascunción (hardtack).

d/ 12-month-per-year program for other child feeding program.

e/ 12-month-per-year program for feeding centers, nurseries and day centers.

f/ 12-month-per-year program for orphanages and homes for handicapped children.

g/ 5-month-per-year program for vocational training, minor seminaries and homes for needy children.

h/ 3-month-per-year program for summer camps.

i/ 12-month-per-year program for economic, community, educational development, etc.

**Table 10. Approximate Contribution of Title II Rations
Toward Daily Recommended Dietary Allowances
(In percentages)**

USAID Priority	Calcium	Vitamin A	Riboflavin
IA. Preschool child.	50	25-30	100
IA. Pregnant women..	30	11	30
IA. Nursing mothers.	25	8	25
IB. School-age child	40	18	58
IC. Refectories.....	50	15-25	50+
IC. Feeding centers.	50+	25-30	50+
II. Economic/comm. development....	20	12-15	20-25

Programs designed for promoting economic and community development have been assigned the lowest priority by USAID within the Title II program. The daily nutritional contribution is listed in table 9. With respect to the daily adult requirements for the critical nutrients of Paraguay, this ration supplies almost 20 percent of the needed calcium and riboflavin and about 12 percent of the vitamin A. While this ration does not appear to be of major significance, it must be remembered that it represents only a supplement to the adult diet.

Opportunities for Improvement

Although the nutritional contributions of the Title II program in its present form are considerable, they could nevertheless be increased substantially. Even within the context of the present program, two avenues toward increasing the nutritional effectiveness of Title II commodities are worthy of consideration.

First, it should be noted that the present Title II program does not make use of the maximum portions which are suggested by AID (Manual Order 1571.1, attachment A). The additional nutritional benefits which would accrue to the high-priority recipient groups by

shifting to the maximum suggested portions of available commodities are given in table 11.

Table 11. Approximate Contribution of P.L. 480
Title II Commodity Rations Toward Daily
Recommended Dietary Allowances
(In percentages)

USAID priority	Calcium		Vitamin A		Riboflavin	
	Pres. prog.	Max. prog.	Pres. prog.	Max. prog.	Pres. prog.	Max. prog.
IA. Preschool child.....	50	80	25-30	75	100	100
IA. Pregnant women.....	30	50	11	26	30	50
IA. Nursing mothers...	25	50	8	20	25	45
IB. School-age child.....	40	65	18	45	58	90

Source: Recommended Dietary Allowances, 7th ed., Publication No. 1694, National Academy of Sciences, Washington, D.C., 1968.

Appendix tables B-9 through B-11 show in more detail the nutritional contribution of the present program for Paraguay compared with the suggested maxima per capita for the commodity use by project category. It should be noted that the maxima suggested for both Priority IA and Priority IB contain about 50 percent more calcium and riboflavin and 15 percent more vitamin A than the presently planned projects. The nutritional advantage of the suggested maxima for Paraguay's primary and secondary malnutrition problems is obvious for these high-priority groups, and there is no apparent reason for the program not to use the full AID maxima per capita rations.

The second avenue toward increasing the nutritional effectiveness of Title II commodities is the possibility of increased use of blended foods, the dietetic acceptability of which was discussed at each interview.

Generally, nonfat dry milk (NFDM) was the Title II item of preference. However, CSM was well accepted in the field, which was to be expected since CSM was designed to be of particular benefit to young children after weaning (USAID Priority IA). The ingredients of the CSM blend are 63.8 percent processed corn meal, 24.2 percent defatted soy flour, 5 percent NFDM, 5 percent refined soy oil, and 2 percent mixture of certain vitamins and mineral salts. Many of these items are already being used in the Paraguayan diet and that undoubtedly accounts for its wide acceptance.

WSB, the alternate blended food, can be made with either wheat flour or bulgur flour and a wheat protein concentrate (other ingredients included are 20 percent soy flour, 4 percent soy oil and 2.6 percent mixture of certain vitamin and mineral salts). While wheat products are acceptable, WSB was not as well liked in the field as CSM. However, both CSM and WSB are nutritionally superior to the other Title II items, with the possible exception of NFDM.

In some cases the blended foods are actually superior to NFDM because they are specifically fortified with vitamins A, C, D, and the essential mineral elements: calcium, iodine and iron. They are much superior to flour as they contain 30 times more calcium and six times more iron. NFDM, however, does contain more calcium, vitamin A and riboflavin on a per gram basis, but the amount issued is usually less and the total nutritional contribution is consequently not very different. In Paraguay the nutritional priorities should equate NFDM with CSM, both being superior to WSB and greatly superior to flour, bulgur, rolled oats and oil.

It is to be emphasized, however, that CSM costs only about one-fourth as much as NFDM and consequently has much greater nutritional input on an economic basis. Thus, the money now being spent to provide dry milk to 204,445 persons in Paraguay in FY 1972 could make an equivalent nutritional contribution to nearly 818,000 people if it were used to provide CSM. This fact, together with its general acceptability in the field, argues strongly for it to receive a much more prominent role in the Title II program than is presently the case.

The Annual Estimates of Requirements for Paraguay (table 12) indicate a 20 percent increase in demand for NFDM this next year, but a 24 percent decrease in blended foods, an almost 20 percent decrease in vegetable oil, and little change in processed grains. While the observed demand for NFDM is nutritionally commendable, the decrease in utilization of blended foods from around 4 million pounds in 1970 to less than 1 million in 1973 is a major nutritional loss, particularly if blended foods could be substituted or requisitioned in place of or in addition to the processed foodstuff-flour and rolled oats in Priorities IB and IC.

Also of special interest in USAID Priority IB is the 9-month program for school-age children in Asunción where "hardtack" is supplied each day to each child along with his milk. The children like this program, and the contribution of calcium, vitamin A and riboflavin does not significantly differ from that specified for school-age children outside Asunción (see appendix tables B-3 and B-4). Supplying the children with nutrients that can be consumed as a snack during school ensures that each child obtains his assigned ration and does not share it with others in the family who may not be as needful of the nutrients.

Program Accuracy

Given the AID Title II priorities, which place greatest emphasis on maternal/child health programs and school feeding operations, the question of whether, and how well, the Title II program in Paraguay reaches the neediest recipients is vital to a comprehensive evaluation of the program. At the same time, the question is very difficult to answer quantitatively with the desired degree of precision. It is possible, however, to make some approximations as to the relationship between recipients and needs, based on the 1965 survey results, school enrollment data, public health statistics, and the CRS program plans, and to draw some tentative conclusions as to the accuracy with which the program is reaching the target groups.

In broad but acceptable terms, the nutritionally neediest segments of the Paraguayan population include pregnant women, nursing mothers and young children.

Table 12. Annual Estimates of Requirements,
P.L. 480 Title II - Paraguay, FY 1968-73
(In thousands of pounds)

Fiscal year	NFDM	Blended foods	Processed grains	Vegetable oils	Total
1968.....	3,222	1,805	6,480	1,546	13,053
1969.....	3,223	4,318	4,997	1,506	14,044
1970.....	3,869	4,096	6,110	1,846	15,921
1971.....	3,416	3,298	5,574	1,656	13,944
1972.....	3,305	1,238	4,459	360	9,362
1973.....	3,976	938	4,467	292	9,673

Source: Annual Estimates of Requirements.

The 1965 survey plus subsequent though meager data reveal that, geographically, the greatest nutritional deficiencies exist in the Chaco and in the most rural parts of the other regions of the country.

Regarding the mother/child program (AID Priority IA), table 8 and the accompanying material indicate that if the Title II program fulfills its FY 1973 goals, around one-third of all the women who are annually enrolled in a public maternal clinic will participate in the food program. This includes women who are served by both the Centros de Salud and the more remote Puestos Sanitarios. In practice, however, the Puestos serve the most rural and remote parts of the country. Thus, while the maternal clinics of these institutions serve fewer mothers than the Centros clinics (4,734 versus 35,386 on a national basis in 1971, according to the Ministry of Public Health), they almost certainly count among their patients the neediest women. In FY 1972 the Title II program in the country is reaching only 19 percent of the institutions in this category (24 Puestos out of a national total of 127), as against 63 percent of the Centros de Salud (see table 8).

The situation may also be appraised solely within the framework of the program; that is, without relying on Ministry of Public Health data. Based on the CRS Program Plan for 1972, the division of mothers and preschool children participating in the program as between Centros de Salud and Puestos Sanitarios is shown in table 13. Again, if the recipients reached in the Puestos are equated to the neediest recipients, only 21 percent of those reached fall into that category (table 14).

Even this percentage must be substantially reduced to account for the fact, discussed earlier, that the program does not actually reach all the recipients included in the CRS Program Plan of Operation or the AER. If the data for September 1971 and March 1972 are averaged on a national basis, 18 percent of the total AER mother/child participants are not in fact participating. This deficit is almost certainly greater in the relatively remote Puestos than in the more centrally located Centros. If the Puesto deficit is estimated at 25 percent, the number of "neediest" mothers and children actually receiving the Title II commodities falls from 5,182 to around 3,900.

Table 13. Participating Public Health Institutions and Recipients,
P.L. 480 Title II Program - Paraguay, FY 1972

CRS region ^{a/}	Centros de Salud			Puestos Sanitarios			Total		
	Institutions	Mothers	Children	Institutions	Mothers	Children	Institutions	Mothers	Children
Alto Paraná.....	3	389	961	1	67	312	4	456	1,273
Asunción.....	21	1,822	4,138	1	100	215	22	1,922	4,353
Caacupé.....	8	775	2,325	2	150	450	10	925	2,775
Caaguazú.....	1	120	360	2	150	450	3	270	810
Carapegua.....	4	350	950	1	200	--	5	550	950
Chaco.....	--	--	--	--	--	--	--	--	--
Concepción.....	6	280	465	--	--	--	6	280	465
Coronel Oviedo..	3	469	987	1	29	87	4	498	1,074
Encarnación.....	1	15	85	--	--	--	1	15	85
Itacurubí del Rosario.....	4	500	1,500	--	--	--	4	500	1,500
Villarrica.....	4	600	1,800	14	627	1,865	18	1,227	3,665
San Pedro.....	--	--	--	2	160	320	2	160	320
Total.....	55	5,320	13,571	24	1,483	3,699	79	6,803	17,270

^{a/} CRS regions are not coterminous with Ministry of Public Health Sanitary Regions.

Source: CRS 1972 Program Plan of Operation,

Table 14. Public Health Recipients

Facility	Mother	Children	Total
Centros de Salud....	5,320	13,571	18,891
Puestos Sanitarios..	1,483	3,699	5,182
Total.....	6,803	17,270	24,073
Puestos as a percent of total.....	22	21	21

To this number of recipients participating under the public health part of the program must be added the beneficiaries of private health institutions. No data are available to enable the neediest recipients to be distinguished in this private sector. However, if the relation of neediest recipients to the total in the private sector is the same as estimated in the public sector (21 percent), the number of total mother and pre-school beneficiaries (private plus public) who are classed as neediest may be reckoned at 6,300.^{1/}

Any delivery system must work through organized institutions if it is to be at all efficient. Thus, the Title II program, even if it permeated all the maternal facilities in both the private and public sectors, would completely miss those women (and their preschool children) who bypass the institutions themselves. Field interviews and discussions with Ministry of Public Health and other personnel revealed that perhaps between 20 and 30 percent of the births in Paraguay may take place without benefit of qualified medical assistance and without the mother having registered at any kind of private or public institution. If these mothers come from among the most economically disadvantaged group in the country, then the Title II program is, by its very design, missing a part of this target group.

^{1/} 21 percent of 40,000 total mother/child health beneficiaries (per the 1972 AER), reduced by 25 percent to account for those not actually participating.

Turning to geographic differences, the area which deviates most from the other regions' nutritional situation is the Chaco. There the CRS 1972 program falls far short of its goal, as only five institutions, all private, are served in the Chaco, potentially reaching only 1,292 mothers and children. Indeed, the actual situation reveals that, of the 1,292 potential recipients, only 400 in fact participated in September 1971 and none participated in March 1972.

In the case of schools, the program probably achieves around the same degree of accuracy in reaching its target population groups as in the maternal/child health centers. Nearly all children are exposed to some education during the ages 5 through 8. There was broad consensus on this point, both in the field and in Asunción. Education is not universal, but probably between 80 to 90 percent of school-aged children will receive some schooling. Thus the schools reach a high percentage of all children.

The program, however, reaches only about one school in four (see table 6). There is no way to know whether the ratio which applies to each region is applicable to all parts of the region, or whether the schools which do not participate are concentrated in the more remote and/or poorer areas. It is likely, based on field observations and interviews, that the more remote schools are those more likely not to be participating in the program, since procurement problems are more acute and the financial resources of the schools (and the students) are reduced. On the other hand, the program actually reaches a higher percentage of participating schools (90 percent in March 1972) than any other kind of institutions.

Regarding the school situation in the Chaco, Title II coverage as reported in the 1972 Program Plan of Operation is lower than in any other region (see table 6). Only four public schools of a total of 64 are participating. Three of the 14 private schools participate, so that the total participation ratio is seven out of 78, or about 9 percent. This is far lower than the national average of 25 percent.

It must be noted that program coverage in the Chaco is increasing rapidly. The March 1972 CRS report indicates that 2,823 students in Chaco schools actually participated. This in fact exceeds the target school population of 2,789. Thus, the situation in the Chaco is improving.

The logistical problems which attend the operation of a meaningful Title II program in the Chaco must be acknowledged. The area is vast (over 95,000 square miles, or 60 percent of the area of the entire country) and only sparsely populated. Estimates place the population of the area at 80,000 to 100,000 persons. Thus the population density is extremely low, and the per capita costs of operating a program are commensurately high. While it is tempting to regard the area as being too remote geographically and too small demographically to warrant a serious Title II program effort, it is nevertheless true that the Chaco inhabitants are, quite without question, the nutritionally neediest people in the entire country. This fact requires that, at least from a nutritional viewpoint, the area be assigned a position of some priority in the overall Title II operation. Further, if the health and education facilities of the Mennonites in the Chaco can be utilized as part of the program (see chapter V), then the inherent logistical difficulties are greatly reduced and an effective program becomes economically practicable as well as nutritionally important.

In sum, although an increase in the absolute size of the Title II program would of course enable a larger number of beneficiaries to be reached, the most important program problems are associated with target accuracy and not size per se. Thus, instead of increasing the entire mother/child health program by a factor of three, a more accurate course of action would be to reach more Puestos Sanitarios and fewer Centros de Salud. Similarly, in the case of schools, it is nutritionally less important to reach absolutely more schools than it is to reach the neediest schools. As noted, provision of transportation and the removal of the forced purchase of the empty containers by the recipient institutions are prerequisites to the achievement of the needed directional change. Also as noted, a shift to blended foods would afford substantial benefits in terms of nutritional economics. Together, the accomplishment of these tasks probably would permit the development of a most efficient program for Paraguay.

III. THE GOVERNMENT OF PARAGUAY'S STAKE IN NUTRITION

Another central issue in evaluating the overall impact of the Title II program concerns the Government's attitudes towards the problems of nutrition. In many respects the GOP's efforts appear too scattered and uncoordinated to be really effective. The fact that three Ministries (Ministries of Public Health, Education, and Agriculture) have substantive involvement in nutritional activities attests to some GOP awareness. On the other hand, the lack of interministerial cooperation and the fact that the one existing GOP vehicle (PAEN) for effecting such coordination and formulating and implementing a nutritional strategy for the country has never realized its potential imply that nutrition is not regarded by the GOP as a matter of urgent national concern.

Ministry of Public Health and Social Welfare

The Ministry most heavily committed and deeply involved in nutritional activities is the Ministry of Public Health and Social Welfare. Several programs operated by this Ministry deal directly and purposefully with nutritional matters, and several programs touch the subject indirectly or peripherally.

At the national level, the Ministry has directly undertaken a program to train and place in the field a corps of 11 nutritional assistants to work with the Centros de Salud in the various regions. The assistants are high-school graduates who have received a 10-month training course in nutrition at the Ministry of Public Health and are now in the provinces working directly with the Centro directors and patients.

The Ministry of Public Health programs also provide the nutritional education materials at the Centros de Salud in the various regions of the country. (There are a total of 87 Centros de Salud.) These materials are prepared by the Ministry on various aspects of public health, environmental sanitation, and nutrition, and are delivered in the field to various groups of patients. Particular emphasis is placed on pregnant women and nursing mothers through the Ministry's mother/child health programs, which are presently designed to reach 40,000 mothers and preschool children.

Also, the Ministry of Public Health contributes to the operations of PAEN by providing personnel to advise PAEN on various program aspects. The Ministry receives technical assistance from the Pan American Health Organization (PAHO), which is now providing the full-time services of one nutritionist from the United States to work with the Ministry's Nutritional Department.

Evidence of interest in nutrition by the Ministry of Public Health and Social Welfare (as well as by AID) is also found in two signed ProAgs (526-11-580-085 and 526-15-580-085.1, also known as 2 [FY 1970] and 6 [FY 1971] respectively) entitled "Population and Nutrition." Major objectives of nutritional importance in these two documents include (1) strengthening and expanding the capacity of the Ministry's Division of Maternal-Child Health and Nutrition; (2) advising mothers on nutrition; (3) collecting essential follow-up data on the recommendations and other aspects of the 1965 survey, for which an additional \$1 million was to have been funded under a separate project agreement for P.L. 480 funds; and (4) expanding the use of Title II foods in clinics through participation in the CRS program. The Ministry's Nutrition Department had the responsibility for developing the program to implement the nutritional objectives as agreed upon in these documents. Because no program plan was forthcoming, however, the separate project agreement for P.L. 480 funds could not be requested. This is indeed unfortunate as it resulted in the loss of an opportunity to determine many diverse nutritional objectives which are important to the Title II food program. In addition to implementing the mother/child health Priority IA group, the new basic data (clinical, biochemical and dietary) could have been compared with the 1965 nutrition survey and would have

been of great value in assessing present-day nutrition in Paraguay.

Fulfilling the nutritional objectives of these ProAgs seems imperative if any sense of priority were attached by the GOP the recommendations in the 1965 nutrition survey. Because the program plan was not developed, current plans no longer call for the utilization of the \$1 million for the original purposes, and much valuable information is being lost.

Ministry of Education

The Ministry of Education has a dual interest in nutrition. First, nutrition is part of the present curriculum in the public schools, and is to receive increased attention in a revised curriculum program which is now being developed and tested on a pilot basis. In the new program, nutrition will be integrated with the allied subjects of personal hygiene, environmental sanitation, and safety and first aid, and taught within the general subject heading of "the community," which also embraces social studies and the sciences. In terms of the total effort devoted to this subject area, it is to absorb 20 percent of the class time in the first grade, 25 percent in the second grade, and 27 percent in the third grade. The Ministry of Education and its advisers are aware that most students do not continue beyond the third grade, and a conscious effort is being made to see that they obtain some fundamental knowledge about personal health and nutrition in these first three grades.

The second area of direct Ministry of Education involvement in nutrition occurs through the school feeding program. The Title II program is presently the only such operation, and it is conducted almost solely at the local level.^{1/} The Ministry is aware of the

^{1/} The World Food Program, operating through PAEN, will soon begin a school lunch program on something of a pilot basis in Cordillera. The program will serve a hot lunch to all children in the participating primary schools. The program is expected to commence sometime in June 1972.

program and is generally appreciative of it, but there was no evidence that such operations were regarded with any sense of priority. In fact, the Ministry's principal contact with the Title II program professed to have no data on the identity or number of schools participating or the number of children fed. (This apathy may be simply a reflection of a lack of intimate involvement in the national program plan. Whatever the reason, the situation clearly calls for greater coordination between CRS and the Ministry at the central Government level.)

In addition to these direct involvements, the Ministry of Education has participated in the PAEN effort, giving \$60,000 per month toward the financing of PAEN.

Ministry of Agriculture

The third Ministry with activities related to nutrition is the Ministry of Agriculture. The national agricultural goals of Paraguay call for the attainment of self-sufficiency in wheat production, an adequate nutrition policy which will provide a better-balanced diet in the population,^{1/} and the resettlement of small unlanded squatters who are living in subsistence conditions on mini-fundia located near Asunción. These goals will of course contribute greatly to the nutritional self-sufficiency of Paraguay if they are achieved. Most observers feel the first-mentioned goal will not be realized on schedule, although growth rates in recent years have been impressive (wheat production increased from 8,000 tons in 1966 to 45,000 tons in 1971, according to AID personnel). The seasonal alternation of wheat with soy and corn, a program which is now being promoted, holds the promise of economically profitable mechanized wheat production and could also relieve some of the nutritional shortfalls to which the Title II program is directed. It must be noted, however, that some of the emphasis being placed on corn and soy is directed primarily at developing crops for export and not for

1/ See A. F. Arnold, An Agricultural Policy Statement for Paraguay: A Case Study, vol. 3, p. 5.

domestic consumption. In fact, soy oil is presently being exported to Argentina^{1/} at the same time that Title II vegetable oil is being imported, thus creating a situation which is at variance with the U.S. regulations under which the Title II commodities are provided.

The Ministry of Agriculture, like the two previously mentioned Ministries, participates in and contributes to the PAEN effort. It is the most important single donor, as it presently contributes ø280,000 per month (or about \$2,200) to PAEN's operations.

Programa de Alimentación y Educación Nutricional

The Programa de Alimentación y Educación Nutricional (PAEN) is a most interesting agency. Created in 1960 to coordinate the GOP's various interests in nutrition, it seems to offer considerable opportunities for the development and implementation of a national nutritional strategy. It appears to be adequately financed,^{2/} and at least a modicum of interministerial coordination appears to have been sustained through the years since its beginning. The PAEN Director General stated that the Ministries of Education and Agriculture have in fact turned over all their nutritional interests to PAEN, though this may overstate the case somewhat.

The PAEN program originally concentrated on school efforts to teach and train children in the practical aspects of agriculture and nutrition. These programs took the form of small school vegetable gardens,

^{1/} In 1970, the most recent year for which data are available, Paraguay exported over 1,200 metric tons of refined soybean oil. Registered imports of all edible oils were just over 300 tons, so that Paraguay had registered net exports of 900 tons from crude oil production of 6,766 tons. (Banco Central del Paraguay.)

^{2/} In addition to the ø280,000 per month contribution which PAEN presently receives from the Ministry of Education, PAEN is awaiting a decree providing an additional ø180,000 per month, ø60,000 from each of the sponsoring Ministries. The Director General stated unequivocally that he experiences no basic difficulty obtaining funds from the Ministry of Finance.

orchards and poultry projects. This activity is still in operation, with some 200 primary schools presently participating. Surplus funds are generated in some operations, but PAEN receives no payment for its contribution, and the funds are said to be reinvested at the local level.

Another PAEN activity is the dissemination of recipes for nutritional meals made from low-cost local foods. These recipes are developed by PAEN, and are printed and distributed through various outlets. Also, a new public relations magazine covering all aspects of PAEN work, including articles on nutrition, is being distributed quarterly.

More recently, PAEN has begun to work in conjunction with the United Nations World Food Program project in the Cordillera. In this project PAEN serves as the delivery system for the commodities which WFP is beginning to provide to some 89,000 recipients of a mother/child health program and a school lunch feeding program. Its relation to WFP is somewhat analogous to the CRS relation to the Title II program, in that both organizations effect in-country storage and distribution to the ultimate recipients of agricultural commodities brought in from donor countries. PAEN accomplishes the distribution tasks with vehicles provided by UNICEF.

Still another recent activity of PAEN is its sponsorship of the construction of a number of small community cooking ovens. This program relies on the assistance of Peace Corps Volunteers, and five incoming Peace Corps Volunteers will be assigned to work with PAEN in various parts of the country. The extension service agents from the School of Agriculture also contribute to this program.

In addition, PAEN is actively promoting the idea of creating a school of nutrition at the university level. The Director General stated that he has been promised the services of three professional staff members and has received still other assurances of assistance. However, this project is still in the planning stage.

Despite its life of 12 years and its variety of on-going programs, PAEN is not a strong or mature agency. Its organizational structure is exceedingly thin, and whatever impression it may give of vitality emanates from the Director General himself rather than from the institution. It is said in some quarters, and not entirely without justification, that PAEN has never really progressed beyond the "pilot project" stage. Although it appears to offer a potentially viable focal point for coordinating the various and diverse nutritional efforts in Paraguay, it presently is seen as being too fragile to be entrusted with that responsibility.

On balance, PAEN should be encouraged to improve and develop its organizational structure and to deepen (rather than broaden) its present project operations. To this end AID should strengthen its relations with PAEN. The possibility of using a PAEN project as a distribution point for Title II commodities should be explored. Broadly, ways should be sought to help PAEN develop its technical and executive skills to a point where it can assume the role of coordinator.

Conclusions

It must be concluded that the GOP evinces a positive awareness of, and a positive attitude toward, the broad problems of nutrition. Three Ministries are actively participating, both individually and collectively, in programs aimed at overcoming or, more importantly, preventing such problems. On the other hand, there does not appear to be a really concerted effort directed at overcoming the nutritional problem, nor does there appear to be the requisite coordination (PAEN's potential is great but its performance, in countrywide terms, has been small). Nowhere does there appear to be a strategy or an overall plan for solving the really tough problem of how to raise to an acceptable minimum the nutritional intake of the most needy population groups. On balance, GOP efforts are seen as fragmented and disjointed. An awareness of the problem exists, but the priority assigned to its solution is not very high, and is certainly not high enough to be regarded as any kind of a national commitment.

**IV. THE GOVERNMENT OF PARAGUAY'S STAKE
IN THE TITLE II PROGRAM**

It is difficult to reckon with confidence the GOP's true position on the Title II program. Attitudes seem to vary from one Ministry to another, and vary within each Ministry as well. Similarly, the attitudes in the field are often different than one encounters in the central Government. To adequately appraise the situation, it is of course necessary to go well beyond the testimony of prominently placed persons to see if their actions comport with their words. In many cases they do not.

Ministry of Public Health and Social Welfare

Within the Ministry of Public Health and Social Welfare the program is apparently well regarded at the highest levels. The Director General of Health declared that "great help" was received from the CRS program. He professed to speak not only for himself but for the Minister, who was out of the country during the period when the evaluation was conducted. It was further related that the program has "psychological benefits" for the recipients, and that the Government was not availing itself fully of the opportunities of the program. The Director General stated that he had recently spoken with the CRS representative and desired to work closely with the representative.

This view was not found elsewhere within the Ministry of Public Health. At the liaison and senior operative levels, attitudes were exhibited which ranged from moderate interest to indifference and apathy. Some of these views came from persons actively working with

the program. Others were voiced by people who are the designated contact points between the Ministry and the AID Food-for-Peace Office and between the Ministry and CRS. In general terms, the kind of close cooperation and rapport which would seem important if the program is to achieve its maximum impact was not exhibited between the appropriate Ministry liaison officials and the U.S. operating personnel.

Ministry of Education

In the Ministry of Education the relations at the liaison level were also strained, and the Ministry official with whom we spoke (the Director of Regional Elementary School Supervisors) expressed concern about the lack of involvement in the program, especially at the planning stage. Generally, a positive attitude was expressed by this official about the program in its broader terms, and it was made quite clear that more cooperation could be expected from the Ministry if it were involved in the developmental stages by CRS. Going significantly further, the Director stated that greater involvement might result in Ministry of Education funds being made available to assist rural schools in procuring Title II commodities and in executing the program.

Whether the Director accurately described the manner in which the Ministry has been bypassed at the planning stages of the program is open to question. Similarly, the chances of a meaningful Ministry contribution to program operation are uncertain. But it is abundantly clear that efforts from the donor side to involve the Ministry of Education (and, indeed, all affected Ministries) should be strengthened so as to promote a GOP sense of participation, a keener awareness of the problems the program is trying to solve and, hopefully, a greater GOP contribution to their solutions.

Government of Paraguay's Financial Contribution

One substantive measure of the GOP contribution to the Title II program is the extent of its financial commitment to the program. Properly, host governments contribute all local currency costs of the operation of Title II programs, including the costs of all inland

transportation, storage and physical distribution, plus all local administrative costs.

In the case of Paraguay, the Government's contribution falls short of such an ideal. In calendar year 1970 (the first year in which CRS was involved), the GOP committed \$6 million, 75 percent of the total budget of \$8 million (with the balance coming from funds generated by CRS from the sale of empty containers). The entire commitment was honored, with the funds being "assigned" from P.L. 480 Title I guarani proceeds of the previous year. Also at that time the Government agreed "...to allocate sufficient funds from the GOP national budget to continue the operation of the food program".^{1/} The calendar year 1971 total GOP requirement was \$11.7 million, and the Government did place the entire amount in the national budget. During the course of that year only \$5,850,000 was actually disbursed. Part of the 1971 shortfall was covered in January 1972 by an additional transfer of \$2,350,000 of Title I proceeds. No further payments toward the 1971 operations are anticipated, so that the total GOP contribution for that year is deficient by \$3.5 million.

For calendar year 1972 a similar GOP contribution of \$11.7 million has been committed,^{2/} and an agreement is now being negotiated between AID and GOP which calls for still another Title I transfer to cover \$2,582,600 of that pledge.

The situation is summarized in table 15.

Conclusions

On balance, the performance shown in table 15 suggests that the GOP does not attach a sense of great

^{1/} ProAg 526-15-580-085.1 (6, FY 1971), dated August 20, 1971, Para. III-B-3.

^{2/} ProAg 526-15-580-085.1 (7, FY 1972), dated December 31, 1971.

Table 15. GOP Commitment to Title II Operations,
CY 1970-72

(In thousands of guaranies)

Calendar year	Amount
<u>1970</u>	
Budgeted.....	6,000
Disbursed.....	6,000 ^{a/}
Deficit.....	0
<u>1971</u>	
Budgeted.....	11,700
Disbursed: in 1971.....	5,850
in 1972.....	2,350 ^{a/}
Total.....	8,200
Deficit.....	3,500
<u>1972</u>	
Budgeted.....	11,700
Pending disbursement as of 5/10/72..	2,583 ^{a/}

a/ Funds assigned or to be assigned from P.L. 480
Title I.

urgency to meeting its commitments to the Title II program. The revenue problems of the GOP are of course very real, and all donor representatives who were contacted during the course of this evaluation expressed some degree of concern over the difficulties encountered in obtaining GOP funds. Interestingly, the WFP Director and the General Director of PAEN voiced relatively sanguine views on this subject, and it is difficult to appraise how the Title II program ranks in overall GOP fiscal priorities vis-a-vis these other nutritional programs. There can be little doubt that WFP and PAEN enjoy a more cordial relationship with the appropriate GOP officials than does the Title II program. Further, one gleans that they are accorded somewhat more favorable GOP treatment in fiscal matters, though the differences here may be more apparent than real.

In the field, the attitude of the representatives of the Ministries of Education and Public Health was generally more positive. These representatives work with the program on a daily basis and can see its contribution. There was almost universal appreciation of the program in the field, and the GOP's contribution at that level, being in the form of human effort and cooperation instead of money, was much more impressive.

One interesting characteristic of the program in the field is that it universally appeared to be associated with CRS or its predecessor agency, CARITAS. In no instance in a field interview was the program described as one which was sponsored by the people of the United States or the Government of the United States. Instead, it was always referred to as "Catholic" or "CRS" or "CARITAS," despite the presence of posters and properly marked food containers.

On balance, the GOP attitude toward the Title II program falls far short of anything approaching enthusiasm. Especially at the senior liaison levels of the central Government, apathy seems a precise description of the general view. In only one instance was there even the slightest indication of GOP interest in assuming a greater share of the burden (either financial or administrative) of the program. In addition, it was impossible to detect the requisite ability or wherewithal to assume such burdens.

This apparent indifference of the GOP to the Title II operation raises the question of how Title II commodities might be tied to a family planning program on a government-to-government basis if ideological issues prevent CRS from fully participating in such an arrangement (see chapter II, "Relation to Other USAID Programs"). If the GOP and AID, working through the Ministry of Public Health, are going to mount a serious family planning campaign in Paraguay, the logistical and administrative apparatus which will necessarily be created to operate the program should also be able to serve as a delivery system for Title II commodities. This is especially true if the availability and distribution of those commodities were tied directly to the family planning clinics. Certainly efforts should be extended to involve the GOP, and especially the Ministry of Public Health, more heavily in the Title II program.

In addition, there is a clear need to develop within the GOP an interest and capability so that still greater and broader participation can be effected in the more distant future.

V. OTHER DONOR PROGRAMS

Despite what has been described as a lack of commitment by the GOP in the general area of nutrition, it is interesting to find that a number of external donor programs are operative in the country. Taken together, the scope and breadth of these efforts suggest that perhaps a greater concern for the nutritional problems of Paraguay emanates from outside the country than from within. Indeed, this may be an appropriate situation. Paraguay has very limited resources, and the nutritional problems, while real, are by no means dire. A more efficient use of all concerned parties' resources may result if external donors make relatively larger contributions in areas which the GOP may be forced to regard as relatively less pressing.

The following descriptions provide some perspective on the nature of the more important external efforts.

World Food Program

The World Food Program, with headquarters in Rome, began its operations in Paraguay in 1967 by providing a food-for-work project operated in conjunction with a reforestation and land resettlement scheme in Alto Paraná. In 1969 a 5-year project of colonization in Eje Norte began, involving 2,200 families from the mini-fundia, and WFP food was used to supply the participants with 100 percent of the ration of wheat flour (about 300 grams); NFDM (50 grams); cheese, dry fish, and vegetable oil (30 grams each); and dry eggs (10 grams) the first year, with graduated reductions to self-sufficiency during the two following years. Shipments of foodstuffs are received quarterly from the various donor countries,

transported by the GOP to regional warehouses and distributed to the recipients on a biweekly basis by local committees.

Another WFP project (1971-73), coordinated with PAEN, is concerned with providing 43,200 schoolchildren in the Cordillera region with foods for a hot lunch, including 50 grams of wheat flour, 48 grams of NFDM, 17 grams of oil and 7 grams of dried eggs for 170 days per year. Local school gardens will provide vegetables. The lunches will be prepared in newly constructed school kitchens and served in newly constructed dining areas, the majority of the construction materials and labor being donated at the local level. Eighty schools are involved in this coordinated program to determine the nutritional impact of a "hot lunch" program on mental and physical well-being. Educational and mental tests will provide data from WFP schools and control schools in the same area. Anthropometric measurements and other ancillary data will be collected in the health centers and sent to Asunción to be summarized on a quarterly basis. Keen interest in the program, which is just beginning, was observed at the local level in both teachers and community leaders. This program could have a worldwide impact, providing factual data on the importance of nutrition in the mental and physical health of primary schoolchildren. In addition, this program is planning to provide 29,723 preschool children with 40 grams of NFDM daily; it will also provide pregnant and nursing mothers with 60 grams of NFDM (for 175 and 365 days respectively). The NFDM will be distributed from three health centers and five sanitary posts at no cost to the recipients. However, in practice, some health centers have charged \$2-\$3 for the plastic bags used in packing the NFDM. This World Food Program, supplying both greater amounts and more varied food items, is causing CRS to lose some of its participants, as one might expect. The total value for the program is \$2,450,000 for the years 1971 to 1973.

The objectives of the WFP and AID Title II programs are different, although superficially they appear to be much the same. For example, WFP stresses the use of food as a capital input which, with other forms of capital or labor, will yield economic and/or social betterment to the recipient. The corresponding AID Title II program area dealing with economic and

community development projects tends to do for the communities what the WFP does for the individuals.

WFP uses food aid for schoolchildren to entice children to attend school and become educated. On the other hand, AID Title II uses schools because they constitute a convenient device to reach children of the primary-school-age level with nutritional food to improve their health, vigor, growth and possibly learning span. With pregnant and nursing mothers and their preschool children, the difference in objectives is not as distinct, since both programs tend to promote a betterment of nutrition for both the mother and the child.

WFP provides NFDM at 40 grams per day for the child and 60 grams per day for the mother, compared with 30 grams of NFDM and 33 grams of rolled oats per day for both mother and child from Title II. Also of nutritional interest is the fact that Title II NFDM is fortified with vitamins A and D. The dried milk from the WFP did not appear to be so fortified. For the schoolchild, both programs provide for 50 grams of flour. WFP supplies 48 grams of NFDM, compared with 30 grams by Title II; and 17 grams of oil, compared with 11 grams by Title II. Title II also provides 25 grams of rolled oats, while WFP supplies 7 grams of dried eggs. Nutritionally WFP must be superior as it contains 50 percent more NFDM and some dried eggs.

There may be interesting opportunities for closer coordination between the AID Title II operation and the WFP, and efforts should be made to develop project complementarity. One area immediately suggests itself. Title II is effective and efficient in the operation of its mother and child feeding programs in public health facilities, and also in school feeding programs. These are, appropriately for Paraguay, operational areas to which the highest AID priorities are attached. At the same time, the WFP has achieved notable success in its economic and community development projects in land resettlement schemes. The merger of these skills could conceivably result in the formulation and implementation of fully integrated projects which would utilize supplementary foods for both economic and social development and for nutritional purposes.

Other opportunities and avenues should also be explored, and it would be well for the AID Food-for-Peace Officer and the Director of the WFP to meet regularly to discuss matters of mutual interest.

Pan American Health Organization

The Pan American Health Organization (PAHO) is headed by Dr. Rodriguez, who has set a fine example of coordination with other organizations, using his limited personnel to their utmost capacity.

His responsibilities include some 19 coordinated projects varying from communicable disease control (malaria, smallpox and animal diseases) to improvement of sanitation and health services, with biostatistics used to interpret the results. PAHO has an interest in the mother/child health program; in medical care; and in providing seminars, books and curriculum needs in areas varying from dentistry to sanitary engineering. All of this work is done with the coordinated efforts of nine individuals and 23 short-term consultants with a total budget of \$630,000 in 1971. Of particular interest is the assignment of a full-time nutritional adviser to the office of the Director of Nutrition in the Ministry of Public Health. This position is expected to assist in the determination of a nutritional priority in the GOP school program. Other duties of the nutritional adviser include providing educational material on child feeding, the importance of safe water supplies, food preparation and storage, coordination with the Home Economic Extension Agents, and liaison with the Nutrition Assistants in the field.

Kellogg Foundation

Paraguay is one of four countries receiving a W.K. Kellogg Foundation grant for the purpose of demonstrating the contribution that rural young people can make on rural development, both in increasing food production and improving the nutrition levels in rural communities.

Some agricultural extension agents have recently received training in Asunción from this grant and are now returning to their homes where they will promote^{1/} the growing of soybeans and corn with the 4-C Clubs. The object is to improve the production of these crops, which will in turn improve the economic well-being of rural youth and their community. 4-C Clubs also aspire to improve their own nutritional standards and that of their communities and to develop marketable skills. The Kellogg grant is for \$606,700 for four countries (Costa Rica, Guatemala, Venezuela and Paraguay) for 4 years. Paraguay uses its share for training and materials only for its 355 4-C Clubs and over 5,000 members. The basic projects in 4-C Clubs include (1) nutrition, (2) food preparation, (3) housing, (4) health, (5) clothing, and (6) manual arts. Extension personnel and the extension 4-C agents are responsible for the program at the local level, where they have individual projects which incorporate learning by doing.

Other Kellogg Foundation support in Paraguay includes the Kellogg Foundation Library.

Mennonites

As the Chaco presents a special case in the distribution and need of Title II foods, and as the Mennonites have programs and schools established in this region, it was thought advisable to contact Mr. Walde of the Mennonite Central Committee. He said that they had occasionally participated in the Title II program, mainly on an emergency basis when crops failed. He further stated that the Indians in the Chaco region were becoming self-sufficient by producing enough food crops, including mandioca, peanuts, beans, and soybeans. However, they consume very little milk; in fact, most children grow up without milk.

The Mennonites (about 10,000 in number) are concerned with about 10,000 Indians, who have 30 schools with 1,000 pupils and 56 teachers in their region. The milk program in the schools was of great interest to

^{1/} 4-C Clubs are the Latin American equivalent of 4-H Clubs in the United States.

Mr. Walde. He said there would be no problem in transporting milk to the Chaco, as Mennonite-owned 10-ton trucks usually return from Asunción with a light load. They have three warehouses suitable for storage, and consequently the week-to-10-day interval during the rains when roads to Asunción are closed would cause no problem in supply.

Mr. Walde thought the Title II program would be of great benefit to the schoolchildren. He also indicated that the mother/child health program might be arranged at the Central Hospital and Dispensary. He said he would discuss Title II with the Central Committee to determine if the program could be implemented.

Seventh Day Adventists

A representative of the Seventh Day Adventist Hospital in Asunción was also contacted with regard to the possibility of participating in the Title II program. The Adventists have three schools with a total of about 500 children. Their economic level was usually higher than other students in the area, and it was stated that they required no further assistance. In addition, it was felt that their association with CRS, if they did participate in the program, would not be to their benefit in the eyes of the GOP, which now permits them to import about \$40,000 per year primarily in medical supplies. It was the general conclusion that no benefit would be obtained by either party in this particular case and that the matter should therefore be dropped.

Peace Corps Volunteers

An interview with the Director of the Peace Corps in Paraguay revealed that Peace Corps Volunteers there are very active in the field of agriculture and public health. Presently there are 20 volunteers (equally divided in sex) in the field of health. The women usually teach nutrition and personal hygiene, while the men concentrate on sanitary measures. Future groups will include 10 more educators, of which it is hoped that four will be nutritionists to work with PAEN. As these young

people are volunteers, their educational backgrounds are varied and it is therefore difficult to make firm plans.

On the agricultural side Peace Corps Volunteers are working in extension and teaching at the university. Some teaching and research is being undertaken in the area of grain insect control, a topic of immediate national interest. Some extension work in home economics is also being done in connection with girls' 4-C projects, women's clubs, etc. A questionnaire has been developed for use in a nutritional study; housewives will complete the questionnaire, and the data will be compiled by the local extension agent.

Conclusions

The various external programs have been examined from the viewpoint of their relationship to each other and to the Title II operation. Based on this examination, two questions seem relevant: First, do any of these other programs offer or suggest to AID a viable alternative to CRS as a delivery system for the Title II program? Second, would a greater degree of inter-program coordination be possible or desirable?

With regard to the first question, the examination of each of these programs and substantive discussions with the program directors and with other interested and/or affected parties leads to the conclusion that CRS is presently the most effective vehicle for the Title II distribution system. The CRS operation is far from perfect. Nevertheless, it does have a wide geographic coverage, an effective field staff, and an efficient administration. With the Title II priorities as they are, CRS is a viable system.

It should be emphasized, however, that WFP displays an admirable vigor at this formative stage of its operation in Paraguay and appears to enjoy rather generous support, relative to its needs, from the GOP. For the goals which WFP pursues, it does a commendable job. However, as noted above, these goals differ from the Title II priority goals, and the method of operation

is consequently different. On balance, the CRS delivery system appears to be better than the alternatives, given the Title II goals.

In general terms, efforts should be made to explore opportunities for project coordination, both among the various donor parties and within the several GOP agencies. Further, some kind of mechanism to facilitate such efforts should be created. One possibility, which would represent at least a starting point, would be the inauguration of a series of regular meetings to which representatives of the donor groups and the appropriate GOP offices would be invited. Such an event, occurring perhaps monthly, would bring the various parties together and afford the opportunity to discuss ideas for future programs and views on present operations. Broadly, it would provide a forum for real communication. Precisely where or under whose auspices such meetings should take place is uncertain and perhaps not too important. Stimulus for such meetings can come from any and all sources, however, and it would appear to be to the advantage of all parties to launch such a venture at once.

VI. PROGRAM MECHANICS

In addition to examining the Title II operation from the vantage points of its nutritional contribution, the economic efficiency of that contribution, and its relation to other GOP and external donor programs, this evaluation has also looked at the various mechanical aspects of the program. As will subsequently be seen, the operation is reasonably efficient in terms of its physical characteristics, and the needed alterations and amendments can be undertaken without any program disruption.

Physical Handling of Commodities

Storage and handling facilities at the port of Asunción are quite good by any standard. Two new warehouses were completed in 1971; they are of metal construction with smooth concrete floors, well adapted to the use of power equipment. With the possible exception of the largest freight vans of incoming merchandise, everything is palletized and handled with modern fork-lift trucks. The combined floor space of these warehouses totals approximately 7,416 square meters, or 24,280 square feet. Window and door openings provide natural ventilation, which reduces the rate of deterioration in foodstuffs from high humidity.

With the cooperation of the Ministry of Finance, CRS is normally able to obtain advance clearance through customs for incoming shipments of P.L. 480 Title II commodities to coincide with port arrivals. In this way, the commodities are transferred directly from ship to CRS trucks at dockside. This method eliminates two extra steps in handling in the transfer to CRS warehouses.

At the time of observation 2,000 bags of rolled oats and 4,000 bags of flour were in the process of being offloaded. Because of some delay in customs clearance, a portion of this shipment had to be stored temporarily in a port warehouse. In removal from storage, which was going on at that time, the commodities were being handled with care and dispatch. There should be no problem of loss or damage to P.L. 480 food products should temporary storage at port warehouses be required in the future.

The CRS national warehouse and the Asunción regional warehouse are combined in one large building with an area of approximately 1,627 square meters, or 5,163 square feet. It was originally designed for storage purposes. Commodity allocation, out-movements and documentation are sharply separated between the national and regional warehouse for control purposes. The building is of brick construction with a concrete floor and is in a good state of repair. The floor is of truck-bed height which expedites in-and-out commodity transfers. The building is entirely adequate, both in design and capacity.

Three additional regional warehouses were examined in some detail: Caacupé, Concepción and Villarrica. The buildings were constructed of brick and concrete and are reasonably secure. With the exception of Villarrica all stocks were stacked directly on the floor or on boards laid flat on the floor. This allows for no air circulation, and, since concrete draws moisture, it also exposes the entire bottom layer to deterioration from moisture absorption.

In Villarrica the commodities were stacked on fairly well-made pallets on which the skids were about 5 inches high. This method was used because the floor of the building is on the level of the ground surface outside, and the pallets protect the food products from water encroachment during heavy rains.

In Caacupé and Concepción the buildings were constructed for other purposes and converted to warehouse use for storage of P.L. 480 commodities. They are adequate as far as space is concerned and are fairly well adapted to storage purposes. First-hand

descriptions of the warehouse facilities at Alto Paraná, San Juan Bautista, and Encarnación indicate that these facilities can also be considered adequate for warehouse and storage use.

Transportation

CRS owns no transport equipment for the physical transfer of P.L. 480 Title II foodstuffs. It is dependent entirely upon custom hauling by commercial truck-owners and operators. These are usually individuals owning one, or seldom more than two, trucks. There is no problem of availability. Sufficient truck capacity for transferring incoming shipments from dockside to inland warehouses expeditiously can be arranged on a 1-day advance notice. The trucks observed appeared to be adequately maintained. No significant delays in transit due to faulty equipment have been experienced. Allocations for interior warehouses are moved there directly from the port unless storage capacities at the moment are not sufficient. In these cases the excess is stored in the national warehouse and transferred at a later date as indicated.

Documentation is strict and controls are tight. For example, a CRS inspector counts every item in each commodity category that is loaded on the trucks at dockside, and fills out a loading slip in quadruplicate. This loading slip shows the total of each category loaded plus the number of items damaged slightly or seriously, if any. A copy of the loading slip accompanies the driver to the warehouse where another inspector checks the load in and fills out a receiving report. These two forms must tally, or the discrepancy must be accounted for satisfactorily. The receiving form is signed by both warehouseman and driver. Two copies of the control forms go to the CRS Central Office for filing and to the accounting department. Only after the recording forms are checked out as complete and accurate by the accounting office does the driver receive payment. At the outlying regional warehouses, the secretaries of the regional committees also check receipts and cosign the receiving forms. There have been no losses from disappearances since the present system of controls was installed.

Product Handling

All Title II products are handled manually by individual case or sack, except for the use of cranes at the port of Asunción, the use of forklifts on the rare occasions when temporary storage at port is required, and movement by truck transport from the dock to and between interior warehouses. A considerable number of man-hours of labor go into the operation. For in-warehouse handling and truck loading and unloading to and between warehouses, the unskilled or semiskilled portion of the labor requirement is accomplished on a food-for-work project basis. On its face, such use of Title II commodities seems at variance with the intended uses as detailed in the relevant AID Manual Orders (see especially M.O. 1572.3, Section IV.A and B). Given the present operating budget levels, however, it is only through the use of this and other expedients mentioned previously that CRS can equate operating costs with the funds available for operations.

The use of relatively inexpensive two-wheel dollies would expedite within-warehouse handling. One man could move five or six bags or cases at a time, and of course could move them faster and easier than if he carried them by hand one at a time.

Storage

Proper methods of storage at the assembly point or warehouse are important for quality preservation and adherence to the basic "first in/first out" principle of warehousing. Some improvements in storage methods and commodity arrangement are needed in the CRS warehouses. However, such improvement can be made at modest cost and with limited technical assistance.

In all CRS warehouses except Villarrica the food commodities are stacked directly on the floor or on boards directly on the floor. They are stacked in large lots, with the lots measuring as many as 25 sacks in width (end view), 35 or 40 sacks in length, and 20 sacks or more high. Taking, as an example, a stack of cereal products measuring 25 sacks wide and 40 sacks long, the 1,000 sacks on the bottom are separated from the

dampness of the concrete floor only by the thin cloth or paper of the bag itself.

Concrete draws moisture from below and from the air above. Because the cereal products normally have a moisture content of only 14 to 16 percent upon arrival, they will rapidly absorb moisture from the floor surface. The rate of inventory turnover at the national warehouse is about every 3 months for flour and rolled oats and up to 6 months for CSM-WSB. This means that a large portion of the bottom layer of these lots will be exposed to moisture absorption for that period. During this time some deteriorative changes in quality, flavor, texture and palatability will undoubtedly take place in the bottom layer. This could bring about total rejection of that food by participants who are issued rations from those bags.

The stacking of large lots solidly together also precludes any possibility of the use of natural ventilation to reduce moisture absorption from the air in areas of high humidity. In addition, stacking large lots solidly together and removing them layer by layer from the top delays reuse of that floor area so long as even one or two layers remain in place.

It was observed that cases of dry milk were stacked as much as 20 cases high. There was evidence that the bottom three layers of cases were beginning to collapse from the pressure of the weight above. When the outer cases break down, the cardboard cartons of milk inside will burst open under the pressure, resulting in losses from waste and/or contamination.

All P.L. 480 Title II commodities presently being brought into Paraguay should be stored on wooden floor pallets. By using uniform-sized floor pallets and removing the food commodity pallet load by pallet load as commodities are transferred, space can be released for immediate reuse as the pallets are emptied. Air space can be left between pallets for more effective air circulation. If the pallets are loaded properly, with each upper layer of sacks or cases securing the layer below, commodities can be safely stacked as high as they are now being stacked from floor level. If lots are stacked in tiers two or more pallets in length, care

should be taken that the pallets are laid end to end so that air movement underneath will be facilitated through the full length of the lot. With an allowance of only 2 or 3 inches of air space between pallet loads, the total quantity stored in any particular area of the warehouse would not be materially reduced.

Since it is not anticipated that CRS will ever use mechanical forklifts in its warehouse operations, it is suggested that the pallets be built with dimensions of 48 inches by 96 inches. These dimensions would provide room for 16 bags or cases per layer, and the pallet would also be of a size easy to move when desired (see figure 1). By laying out a pattern of bags and/or cases on the floor marked to the dimensions suggested above, it can be determined whether the suggested size should be adjusted slightly. However, the principal requirement for the pallets is uniformity. The skids or rails should be a minimum of 4 inches high, and they should all be the same height.

Cases of dry milk should not be stored for long periods of time in stacks more than 10 cases high, and never, even for short periods, in stacks more than 12 cases high.

Each category of commodity should be assigned, generally, to specific areas in both the national and regional warehouses. New shipments of each commodity should be separated from the on-hand inventory of the same product -- perhaps by no more than 10 to 12 inches -- and the date of receipt should be marked on each lot for identification in practicing positive rotation of inventories. Identification by date of receipt can be done by writing the date on one bag or case at the front right-hand corner of the lot with a contrasting color, or by use of a tag or sticker. In this way, even new warehouse personnel can maintain accurate rotation of stacks.

Sanitation

The matter of local contamination is not as much a cause for concern at the major warehouse locations as at the final points of distribution, i.e., schools,

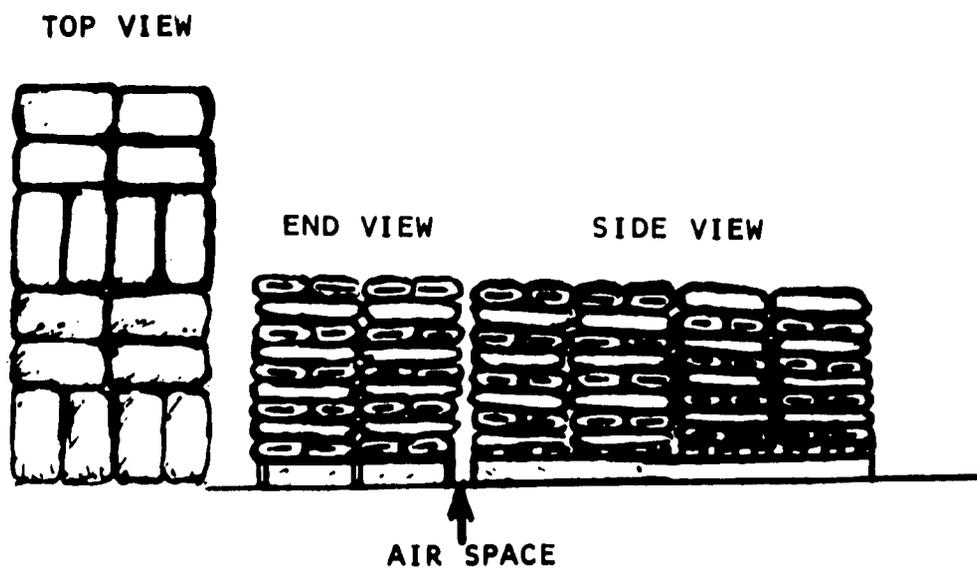


FIGURE 1. STACKING PATTERN FOR SACKS ON UNIFORM-SIZE PALLETS

clinics, work projects, etc. At warehouses, food commodities are well contained and fairly well sealed from outside contacts. The exception would be minor break-ages in handling. At consumption levels, however, open sacks of cereal products and open cartons of milk are subject to contamination by flies and other insects as well as by personal contacts.

Rats and mice are problems of from slight to serious proportions at all levels. Grain weevil also constitutes a problem with products of cereal content; this situation is apparent in both warehouse storage and at consumption levels.

Efforts are being made to control insect and rodent infestations, but most of the methods used are generally ineffective and some of the materials used could prove hazardous to health.

Apparently the only insecticide being used for control is a mixture of malathion in both liquid sprays and in powder form. The powder is blown out under pressure by use of a hand pump. In the warehouse at Concepción there was evidence that the malathion powder mixture had lapped over onto the lower outside sacks of flour and rolled oats. It was pointed out that a veterinarian was in charge of insect control at that warehouse. This does not necessarily indicate expertise in the matter of protection and preservation of food commodities in storage. Spraying floors and surrounding areas with an insecticide is completely ineffective in controlling infestation of grain weevil. As a rule of thumb, when there is outside evidence of the presence of weevil, it means heavy infestation inside the product container.

The accepted method for controlling the weevil problem is the use of fumigants in gas form. Methyl bromide is the principal ingredient in some of the commercially produced fumigants. If this or similar products are not available locally, it is suggested that CRS arrange to bring in an approved fumigant from the United States.

Since it would be virtually impossible to adequately seal off any of the existing warehouses entirely for mass fumigation, it will have to be done by restacking the infested product into manageable lots and fumigating under sheets of plastic. The plastic covers must be large enough to cover the entire stack to be fumigated and should drape down the sides, with boards or other product containers placed at floor level. The gas can then be introduced under the plastic covers, left for the period of time recommended by the manufacturer, and left open for aeration and dispersion for the recommended time before it is issued to participants for consumption.

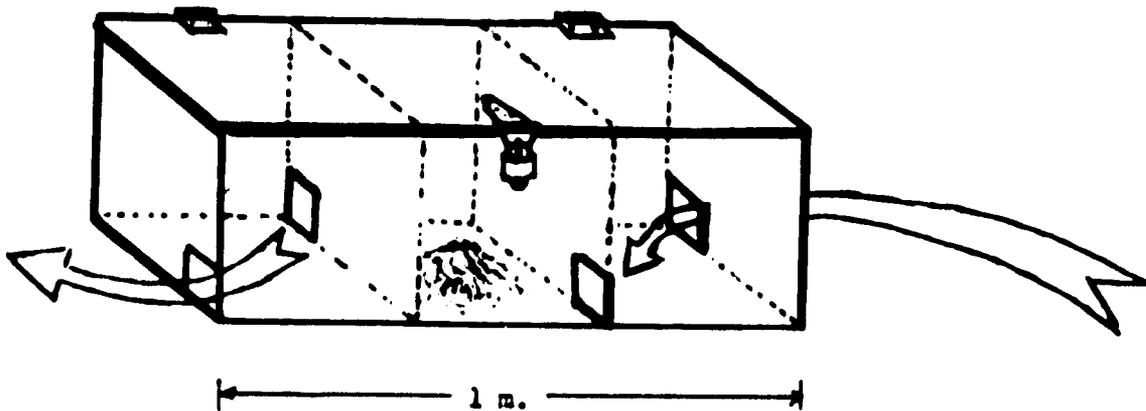
In the United States a formula called "Warfarin" is in general use for controlling rats and mice. It acts as an anticoagulant, causing lesions in blood vessel walls which produce internal and external hemorrhaging. Rats and mice die after 4 or 5 days of continuous ingestion, and nearly always die away from the warehouse area. Warfarin is not considered a poison as such, and although caution is advised in its use, it is not considered harmful to children and pets that may accidentally come into contact with it.^{1/}

Information on approved methods for controlling insects and rodents in warehouses and smaller distribution-point rooms, consistent with stringent safety precautions, should be developed by CRS, reproduced for circulation, and used in training programs extending to all persons responsible for food storage facilities. Supervisors should make sure that safe procedures are understood in the field. In proper concentrations, malathion is considered a safe insecticide to use for spraying open areas of principal warehouses to control roaches and similar insects, provided manufacturer's instructions for use are strictly observed. The spray or powder must not reach stacks of commodities.

^{1/} Recent research provides evidence that some Warfarin-resistant strains of rats now exist, particularly in areas where the formula has been used for long periods. (See, for example, "Resistance of the Norway Rat to Anticoagulant Rodenticide," Pest Control, September 1971, p. 13.) No such strains can exist in Paraguay, however, and it is our judgment that Warfarin is presently the safest and most effective rodenticide.

Approved bait mixtures for rats and mice should be exposed in simple bait boxes in all principal warehouses (figure 2). The use of such boxes should also be explained to those responsible for the small storage rooms of schools and other food distribution points. As has been mentioned before, Warfarin has long been considered relatively safe and effective for combining with cereals and other foods to be exposed in this manner. Several brand-name products containing Warfarin as the effective ingredient are marketed commercially in the United States.

To the extent possible, weevil infestations in food commodities should be destroyed at the warehouse level before commodities are transferred to the final distribution points.



LID SHOULD BE HINGED AND SECURED WITH LOCK. MIXED BAIT IS EXPOSED IN MIDDLE COMPARTMENT. ONE BOX IS SUFFICIENT FOR A SMALL TO MEDIUM STORAGE ROOM; THREE OR MORE WOULD BE DESIRABLE IN A CRS WAREHOUSE.

FIGURE 2. BOX FOR CONTINUOUS EXPOSURE OF WARFARIN OR SIMILAR BAIT

APPENDIX A. PERSONS AND INSTITUTIONS
CONTACTED IN PARAGUAY,
APRIL 24 - MAY 19, 1972

Ministry of Public Health and Social Welfare

Asunción

Dr. Ramón P. Delmás, Director General of Health
Dra. Olimpia de Godoy, Director, Population and Nutrition Program
Dr. Hugo Miranda, Medical Director of the Department of Nutrition
Dr. Andrés Vidovich - Morales, Director of Technical Services

Field Operations

Dr. Efraín Alderette, Director, Centro de Salud, Villarica
Sra. Paulina de Bonzi y Teodoro Ortellado, Director, Puesto Sanitario, Belén
Dr. Santiago Codas, Director, Centro de Salud, Concepción
Dr. Raúl Garcete, Director, Centro de Salud N° 3, Asunción
Sra. Leocone Centens de Khon, Acting Director, Centro de Salud, Caacupé
Director, Centro de Salud, Arroyos y Esteros
Puesto Sanitario, Tobatí

Ministry of Education and Worship

Asunción

Dr. Carlos Ortiz, Director of Regional Elementary School Supervisors
 Dr. Ernest Gurule, Programa de Desarrollo Educacional
 (University of New Mexico)

Field Operations

Licenciada Atilana F. de Montiel, Supervisor, Villarrica
 Escuela N^o 27, Concepción
 Escuela N^o 43, Arroyos y Esteros
 Escuela N^o 44, Tobatí
 Escuela N^o 187, Belén
 Escuela N^o 294, Dr. Gaspar Rodriguez de Francia, Concepción
 Escuela N^o 300, Batallón Escolta, Barrio Stroessner
 Escuela N^o 373, Villarrica
 Escuela N^o 388, Gral Bernardino Caballero
 Escuela Don Bosco, Concepción

Ministry of Agriculture

Asunción

Dr. Nelson de Barros, Secretary for Technical Coordination

Catholic Relief Services

Asunción

Mr. Jack Fazio, Representative
 Mr. James J. Mohan, Assistant Representative
 Sr. César Filippini, Programming/Auditing/Field Controls
 Sr. Fernando Carmona, In-Country-Shipping/Planning
 Sr. Dorcis Rubén Haitter, Inspector

Villarrica

Sr. Amancio Duarte Bñez, Secretary
Dr. Rodolfo Herrero, Inspector

Caacupé

Sra. Teresita Camelli, Secretary
Sr. Juan Pedro Cáceres

Concepción

Sr. Aniano Navarro, Secretary
Sr. Justino Mello Cabral, Inspector

USAIDAsunción

Mr. John R. Oleson, Mission Director
Mr. Ronald Witherell, Program Officer
Mr. Anthony J. Kranaskas, Food-for-Peace Officer
Dr. Frank A. Mann, Education Officer
Mr. Sidney Clark, Family Planning Officer
Mr. Sanford W. White, Agricultural Officer
Mr. Richard Magleby, USDA/PASA
Dr. C.V. Plath, USDA/PASA

United NationsAsunción

Dr. Hernan B. Julio, Director, World Food Program

Pan American Health OrganizationAsunción

Dr. Julian Rodriguez, Representative
Mrs. Julie Ellis, Nutritionist

Others

Sr. Lorenzo Romero, Mayor, Intendencia Municipal de Fernando de la Mora
Dr. Ramón Cotas, Director General, Programa de Alimentación y Educación Nutricional (PAEN)
Fra. Pedro Lovera, Concepción
Fra. Federico Forcadell, Villarrica
Mr. K. Walde, Director, Mennonite Central Committee
Mr. William L. Berry, Jr., Director, Peace Corps
Dr. Juan Drachenberg, Director, Seventh Day Adventist Hospital, Asunción
Miss Helen Nash, Peace Corps Volunteer, Concepción
Mrs. Nancy Granovsky, Peace Corps Volunteer, Asunción

**APPENDIX B. NUTRITIONAL COMPOSITION
OF P.L. 480 TITLE II
FOODS AND PRIORITIES**

Table B-1. Nutritional Composition of Foods Distributed Under P.L. 480 Title II Program, Paraguay

Description and unit	Bulgur	Corn-soy-milk (CSM)	Milk nonfat dry fortified (NFDM)	Oats, rolled dry	Flour, all-purpose enriched	Oil, vegetable	Wheat-soy blend (WSB)
Water (%).....	10.0	9.8	3.0	8.3	12.0	0	9.4
Energy (cal.).....	354	373	363	390	364	884	365
Protein (g.).....	11.2	18.2	35.9	14.2	10.5	0	21.4
Fat (g.).....	1.5	6.0	0.8	7.4	1.0	100	6.8
Carbohydrate (g.).....	75.7	61.8	52.3	68.2	76.1	0	57.3
Calcium (mg.).....	29	513	1,308	53	16	0	684
Phosphorus (mg.).....	338	381	1,016	405	87	0	533
Iron (mg.).....	3.7	18.5	0.6	4.5	2.9	0	20.5
Sodium (mg.).....	4	283	532	2	2	0	292
Potassium (mg.).....	229	604	1,745	352	95	0	642
Magnesium (mg.).....	160	112	143	144	25	0	169
Vitamin A (I.U.).....	--	1,940	2,200	--	--	--	1,660
Vitamin E (I.U.).....	--	8.6	--	2.7	--	14.8	10.5
Vitamin C (mg.).....	--	40	7	--	--	--	40
Thiamine (mg.).....	.28	.65	.35	.60	.44	--	2.02
Riboflavin (mg.).....	0.14	0.59	1.80	0.14	0.26	--	0.59
Niacin (mg.).....	4.5	6.3	0.9	1.0	3.5	--	8.2
Folic acid (mg.).....	.04	.30	.002	.03	.007	--	.329
Vitamin B ₆ (mg.).....	.23	.49	.38	.14	.06	--	.67
Vitamin B ₁₂ (mcg.).....	--	4.16	3.20	--	--	--	4.00

Source: R.M. Feeley & B.K. Watt, "Nutritive Values of Foods Distributed Under USDA Food Assistance Programs," Journal of American Dietetic Association, 57:528-47 (1970).

Table B-2. P.L. 480 Title II, Paraguay: Daily Nutritional Contribution of Foods Distributed Under USAID Priority IA: 12-Month-per-Year Program for Pregnant and Nursing Mothers and Their Preschool-Age Children

Description and unit	NFDM	Oats	Total
Amount (g.).....	30	33	63
Energy (cal.).....	109	129	238
Protein (g.).....	10.8	4.7	15.5
Fat (g.).....	0.2	2.4	2.6
Carbohydrate (g.).....	15.7	22.4	38.1
Calcium (mg.).....	392	18	410
Phosphorus (mg.).....	303	134	437
Iron (mg.).....	0.2	0.5	1.7
Sodium (mg.).....	160	1	161
Potassium (mg.).....	524	116	640
Magnesium (mg.).....	43	47	90
Vitamin A (I.U.).....	660	-	660
Vitamin E (I.U.).....	-	0.9	0.9
Vitamin C (mg.).....	2.1	-	2.1
Thiamine (mg.).....	0.11	0.20	0.31
Riboflavin (mg.).....	0.54	0.04	0.58
Niacin (mg.).....	0.3	0.3	0.6
Folic acid (mg.).....	0.001	0.011	0.012
Vitamin B ₆ (mg.).....	0.11	0.04	0.15
Vitamin B ₁₂ (mcg.).....	0.96	-	0.96

Table B-3. Daily Nutritional Contribution of
Foods Distributed Under USAID Priority IB:
9-Month-per-Year Program for School-Age
Children^{a/}

Description and unit	NFDM	Rolled oats	Wheat flour	Vegetable oil	Total
Amount (g.).....	30	25	50	11	116
Energy (cal.).....	109	97	182	97	485
Protein (g.).....	10.8	3.5	5.2	-	19.5
Fat (g.).....	0.2	1.8	0.5	11.0	13.5
Carbohydrate (g.)....	15.7	17.0	38.0	-	70.7
Calcium (mg.).....	392	13	8	-	413
Phosphorus (mg.).....	303	101	43	-	447
Iron (mg.).....	0.2	1.1	1.4	-	2.7
Sodium (mg.).....	160	1	1	-	162
Potassium (mg.).....	524	88	47	-	659
Magnesium (mg.).....	43	36	12	-	91
Vitamin A (I.U.)....	660	-	-	-	660
Vitamin E (I.U.)....	-	.7	-	1.5	2.2
Vitamin C (mg.).....	2.1	-	-	-	2.1
Thiamine (mg.).....	.11	.15	.22	-	.48
Riboflavin (mg.)....	.54	.03	.13	-	.70
Niacin (mg.).....	.3	.3	1.7	-	2.3
Folic acid (mg.)....	.001	.007	.004	-	0.012
Vitamin B ₆ (mg.)....	.11	.03	.03	-	0.17
Vitamin B ₁₂ (mcg.)..	.96	-	-	-	0.96

^{a/} Based on 20 school days per month.

Table B-4. Daily Nutritional Contribution of
Foods Distributed Under USAID Priority IB:
9-Month-per-Year Program for School-Age
Children in 45 Schools in Asunción
(Hardtack Program)^{a/}

Description and unit	NFDM	Wheat flour	Vegetable oil	Total
Amount (g.).....	30	50	11	91
Energy (cal.).....	109	182	97	388
Protein (g.).....	10.8	5.2	-	16.0
Fat (g.).....	0.2	0.5	11	11.7
Carbohydrate (g.).....	15.7	38.0	-	53.7
Calcium (mg.).....	392	8	-	400
Phosphorus (mg.).....	303	43	-	346
Iron (mg.).....	0.2	1.4	-	1.6
Sodium (mg.).....	160	1	-	161
Potassium (mg.).....	524	47	-	571
Magnesium (mg.).....	43	12	-	55
Vitamin A (I.U.).....	660	-	-	660
Vitamin E (I.U.).....	-	-	-	-
Vitamin C (mg.).....	2.1	-	-	2.1
Thiamine (mg.).....	.11	.22	-	.33
Riboflavin (mg.).....	.54	.13	-	.67
Niacin (mg.).....	.3	1.7	-	2.0
Folic acid (mg.).....	.001	.004	-	.005
Vitamin B ₆ (mg.).....	.11	.03	-	.14
Vitamin B ₁₂ (mcg.).....	.96	-	-	.96

^{a/} Based on 20 school days per month.

**Table B-5. Daily Nutritional Contribution of
Foods Distributed Under USAID Priority IC:
Other Child Feeding Program; Group I:
12-Month-per-Year operation
for Refectories**

Description and unit	NFDM	Rolled oats	Total
Amount (g.).....	30	16	46
Energy (cal.).....	109	64	173
Protein (g.).....	10.8	2.3	13.1
Fat (g.).....	0.2	1.2	1.4
Carbohydrate (g.).....	15.7	11.2	26.9
Calcium (mg.).....	392	9	401
Phosphorus (mg.).....	303	67	370
Iron (mg.).....	0.2	0.7	0.9
Sodium (mg.).....	160	1	161
Potassium (mg.).....	524	58	582
Magnesium (mg.).....	43	23	66
Vitamin A (I.U.).....	660	-	660
Vitamin E (I.U.).....	-	0.4	0.4
Vitamin C (mg.).....	2.1	-	2.1
Thiamine (mg.).....	.11	.10	.21
Riboflavin (mg.).....	.54	.02	.56
Niacin (mg.).....	.3	.15	.45
Folic acid (mg.).....	.001	.005	.006
Vitamin B ₆ (mg.).....	.11	.02	.13
Vitamin B ₁₂ (mcg.).....	.96	-	.96

Table B-6. Daily Nutritional Contribution of Foods Distributed
 Under USAID Priority IC: Other Child Feeding Program,
 Group I: 12-Month-per-Year Operation for Feeding
 Centers, Nurseries and Day Centers

Description and unit	NFDM	All-purpose flour	Bulgur	Rolled oats	CSM	Vegetable oil	Total
Amount (g.).....	30	33	16	16	33	15	143
Energy (cal.).....	109	121	59	64	124	132	609
Protein (g.).....	10.8	3.5	1.9	2.3	6.1	--	24.6
Fat (g.).....	0.2	0.3	0.2	1.2	2.0	15.0	18.9
Carbohydrate (g.).....	15.7	25.4	12.6	11.2	20.6	--	85.5
Calcium (mg.).....	392	5	5	9	171	--	582
Phosphorus (mg.).....	303	29	56	67	123	--	578
Iron (mg.).....	0.2	1.0	0.6	0.7	6.2	--	8.7
Sodium (mg.).....	160	1	1	1	94	--	257
Potassium (mg.).....	524	32	38	58	201	--	853
Magnesium (mg.).....	43	8	27	23	37	--	138
Vitamin A (I.U.).....	660	--	--	--	647	--	1,307
Vitamin E (I.U.).....	--	--	--	0.4	2.9	2.2	5.5
Vitamin C (mg.).....	2.1	--	--	--	13	--	15.1
Thiamine (mg.).....	.11	.15	.05	.10	.22	--	.63
Riboflavin (mg.).....	.54	.09	.02	.02	.20	--	.87
Niacin (mg.).....	.3	1.2	0.8	.15	2.1	--	4.5
Folic acid (mg.).....	.001	.002	.006	.005	.098	--	0.112
Vitamin B ₆ (mg.).....	.11	.02	.04	.02	1.77	--	1.96
Vitamin B ₁₂ (mcg.).....	.96	--	--	--	--	--	.96

Table B-7. Daily Nutritional Contribution of Foods Distributed Under USAID
 Priority IC: Other Child Feeding Programs, Group II: 12-Month-per-
 Year Operation for Orphanages and Homes for Handicapped Children;
 Group III: 5-Month-per-Year Operation for Vocational Training
 Centers, Minor Seminaries and Homes for Needy Children; and
 Group IV: 3-Month-per-Year Operation for Summer Camps

Description and unit	Vegetable oil	NFDM	All-purpose flour	Bulgur	WSB	Rolled oats	CSM	Total
Amount (g.).....	15	30	67	16	16	16	33	193
Energy (cal.).....	132	109	242	59	60	64	124	790
Protein (g.).....	--	10.8	7.0	1.9	3.6	2.3	6.1	31.7
Fat (g.).....	15.0	0.2	0.6	0.2	1.1	1.2	2.0	20.3
Carbohydrate (g.)...	--	15.7	50.8	12.6	9.5	11.2	20.6	120.4
Calcium (mg.).....	--	392	10	5	114	9	171	701
Phosphorus (mg.)....	--	303	58	56	89	67	123	696
Iron (mg.).....	--	0.2	2.0	0.6	3.4	0.9	6.2	13.1
Sodium (mg.).....	--	160	2	1	50	1	94	308
Potassium (mg.).....	--	524	64	38	106	58	201	991
Magnesium (mg.).....	--	43	16	27	27	23	37	173
Vitamin A (I.U.)....	--	660	--	--	276	--	647	1,583
Vitamin E (I.U.)....	2.5	--	--	--	1.7	0.4	2.9	7.5
Vitamin C (mg.).....	--	2.1	--	--	6.6	--	13.0	21.7
Thiamine (mg.).....	--	.11	0.30	.05	.34	.10	.22	1.12
Riboflavin (mg.)....	--	.54	.18	.02	.10	.02	.20	1.06
Niacin (mg.).....	--	.3	2.4	0.8	1.3	.10	2.1	7.0
Folic acid (mg.)....	--	.001	.004	.006	.055	.005	.098	.169
Vitamin B ₆ (mg.)....	--	.11	.04	.04	.11	.02	0.16	0.48
Vitamin B ₁₂ (msg.)..	--	0.96	--	--	0.67	--	1.39	3.02

Table B-8. Daily Nutritional Contribution of
Foods Distributed Under USAID Priority II:
Economic/Community Development Project

Description and unit	All-purpose flour	CSM	Bulgur	Vegetable oil	Total
Amount (g.).....	50	33	16	7.5	106.5
Energy (cal.).....	182	124	59	67	432
Protein (g.).....	5.2	6.1	1.9	-	13.2
Fat (g.).....	0.5	2.0	0.2	7.5	10.2
Carbohydrate (g.).....	38.0	20.6	12.6	-	71.2
Calcium (mg.).....	8	171	5	-	184
Phosphorus (mg.).....	43	123	56	-	222
Iron (mg.).....	1.4	6.2	0.6	-	8.2
Sodium (mg.).....	1	94	1	-	96
Potassium (mg.).....	47	201	38	-	286
Magnesium (mg.).....	12	37	27	-	76
Vitamin A (I.U.).....	-	647	-	-	647
Vitamin E (I.U.).....	-	2.9	-	1.7	4.6
Vitamin C (mg.).....	-	13.0	-	-	13.0
Thiamine (mg.).....	.22	.22	.05	-	0.49
Riboflavin (mg.).....	.13	.20	.02	-	0.35
Niacin (mg.).....	1.7	2.1	0.8	-	4.6
Folic acid (mg.).....	.004	.098	.006	-	.108
Vitamin B ₆ (mg.).....	.03	0.16	.04	-	.23
Vitamin B ₁₂ (mcg.).....	-	1.39	-	-	1.39

Table B-9. Daily Nutritional Contribution of Suggested Maxima Per Capita Rates for Commodity Use by Project Category, USAID Priority IA: 12-Month-per-Year Program for Pregnant and Nursing Mothers and Their Preschool Children

Description and unit	NFDM	CSM	All-purpose flour	Vegetable oil	Total suggested maxima
Amount (g.).....	30	50	30	15	125
Energy (cal.).....	109	187	109	133	538
Protein (g.).....	10.8	9.1	3.2	-	23.1
Fat (g.).....	0.2	3.0	0.3	15.0	18.5
Carbohydrate (g.)....	15.7	30.9	23.0	-	69.6
Calcium (mg.).....	392	257	5	-	654
Phosphorus (mg.).....	303	190	26	-	519
Iron (mg.).....	0.2	9.2	0.9	-	10.3
Sodium (mg.).....	160	141	1	-	302
Potassium (mg.).....	524	302	28	-	854
Magnesium (mg.).....	43	56	7	-	106
Vitamin A (I.U.).....	660	970	-	-	1,630
Vitamin E (I.U.).....	-	4.3	-	2.2	6.5
Vitamin C (mg.).....	2.1	20.0	-	-	22.1
Thiamine (mg.).....	0.11	.33	.13	-	.57
Riboflavin (mg.).....	0.54	.30	.08	-	.92
Niacin (mg.).....	0.3	3.1	1.0	-	4.4
Folic acid (mg.).....	0.001	.150	.002	-	.153
Vitamin B ₆ (mg.).....	0.11	.25	.02	-	.38
Vitamin B ₁₂ (mcg.)...	0.96	2.08	-	-	3.04

Table B-10. Daily Nutritional Contribution of Suggested
 Maxima Per Capita Rates for Commodity Use by Project
 Category, USAID Priority IB: 9-Month-per-Year
 Program for School-Age Children^{a/}

Description and unit	NFDM	CSM	All-purpose flour	Vegetable oil	Total suggested maxima
Amount (g.).....	30	50	100	11	191
Energy (cal.).....	109	187	364	97	757
Protein (g.).....	10.8	9.1	10.5	-	30.4
Fat (g.).....	0.2	3.0	1.0	11.0	15.2
Carbohydrate (g.).....	15.7	30.9	76.1	-	122.7
Calcium (mg.).....	392	257	16	-	665
Phosphorus (mg.).....	303	190	87	-	580
Iron (mg.).....	0.2	9.2	2.9	-	12.3
Sodium (mg.).....	160	141	2	-	303
Potassium (mg.).....	524	302	95	-	921
Magnesium (mg.).....	43	56	25	-	124
Vitamin A (I.U.).....	660	970	-	-	1,630
Vitamin E (I.U.).....	-	4.3	-	1.5	5.8
Vitamin C (mg.).....	2.1	20.0	-	-	22.1
Thiamine (mg.).....	.11	.33	.44	-	.88
Riboflavin (mg.).....	.54	.30	.26	-	1.10
Niacin (mg.).....	.3	3.1	3.5	-	6.9
Folic acid (mg.).....	.001	.150	.007	-	.158
Vitamin B ₆ (mg.).....	.11	.25	.06	-	.42
Vitamin B ₁₂ (mcg.).....	.96	2.08	-	-	3.04

^{a/} Based on 20 school days per month.

**Table B-11. Summary of Daily Nutritional Contribution
of Foods Actually Distributed under USAID
Priorities IA and IB in Paraguay
Compared with Suggested Maxima**

Description and unit	Priority IA		Priority IB	
	Paraguay actual	Suggested maxima	Paraguay actual	Suggested maxima
Amount (g.).....	63	125	116	191
Energy (cal.).....	238	538	485	757
Protein (g.).....	15.5	23.1	19.5	30.4
Fat (g.).....	2.6	18.5	13.5	15.2
Carbohydrate (g.)..	38.1	69.6	70.7	122.7
Calcium (mg.).....	410	654	413	665
Phosphorus (mg.)..	437	519	447	580
Iron (mg.).....	1.7	10.3	2.7	12.3
Sodium (mg.).....	161	302	162	303
Potassium (mg.)...	640	854	659	921
Magnesium (mg.)...	90	106	91	124
Vitamin A (I.U.)..	660	1,630	660	1,630
Vitamin E (I.U.)..	0.9	6.5	2.2	5.8
Vitamin C (mg.)...	2.1	22.1	2.1	22.1
Thiamine (mg.)....	.31	.57	.48	.88
Riboflavin (mg.)..	.58	.92	.70	1.10
Niacin (mg.).....	0.6	4.4	2.3	6.9
Folic acid (mg.)..	0.012	.153	.012	.158
Vitamin B ₆ (mg.)..	.15	.38	.17	.42
Vitamin B ₁₂ (mcg.)	.96	3.04	.96	3.04