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NORTHEAST BRAZIL AGRICULTURAL MARKETING PROJECT:  
SUCCESS, BUT CONFINED IMPACT

WORKING PAPER NO. 109

by

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The views and interpretations expressed in this report are those of the authors and should not be attributed to the Agency for International Development.

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PREFACE

Early in our review of the Northeast Brazil Agricultural Marketing project to identify its lessons and impacts, we concluded that the project and its lessons and impacts were confined to, if not determined by, the environment in which the project was conducted. That environment, in turn, is the result of the historical background of the Brazilian Northeast.

Within this framework, our information sources were (1) numerical data supplied by several Brazilian agencies (see report tables), (2) interviews during our 3 weeks in Brazil with individuals knowledgeable about the project and the Northeast, and (3) our own knowledge of the region.

This report therefore reflects our "best judgment" and does not aspire to be an exhaustive analysis of the project or the environment in which the project took place. A longer term study of the project could provide more insights and greater confidence in our conclusions. Such an in-depth review could rely on information provided by Brazilian institutions such as agricultural universities, a number of which owe their excellence in part to past Agency for International Development (AID) cooperation and support.

Despite the limitations of this narrowly focused review, we are confident that this review identifies and explains significant successes and limitations of the Northeast Brazil Agricultural Marketing project.

SUMMARY

The Northeast Brazil Agricultural Marketing project was well designed and successfully implemented. The project has contributed significantly toward building the wholesale market infrastructure essential to meeting the increased food needs of the rapidly growing metropolitan areas and middle classes of Northeast Brazil. The marketing infrastructure introduced by this project is now a going concern.

Whatever impacts the project did not achieve were beyond its reach. Given the limiting and complex environment in which it operated, the project could not have accomplished all of its ambitious objectives to benefit consumers and producers. The forces that conditioned the project's impact, especially on producers, are deeply rooted in the history of Northeast Brazil. The Northeast's pattern of land tenure for the few, and landlessness for the many of the Northeast, population growth, rapid urbanization, dependence on the Central-South region, and the national political and administrative bias toward centralization and nonparticipation critically confined the benefits derived from the project.

The most significant contributions of the Agency for International Development (AID) were in the design of the project, the assurance of greater continuity in implementation, and--most of all--management and marketing training.

GLOSSARY

AID	- Agency for International Development
BNDES	- Brazilian National Bank for Economic Development
Ceasas	- National system of wholesale centers
COBAL	- Brazilian Food Company
<u>feiras</u>	-
<u>feiras livre</u>	-
GEMAB	- Executive Group for the Modernization of Food Supply
GTDN	- Grupo de Trabalho para o Desenvolvimento do Nordeste
<u>latifundio</u>	- Organization of agriculture based on large plantations and labor often in a state of servitude
<u>minifundarios</u>	-
sacaloes	- retail markets at which fruits and vegetables are sold by the basket rather than by the weight of individual items
SIMA	- Agricultural Marketing Information System
SUDENE	- Superintendency for Development of the Northeast

## 1. PROJECT SETTING AND ORIGIN

### 1.1 Setting

The purpose of the project, as explained in the Capital Assistance Paper of February 11, 1971 (see Appendix A) was as follows:

To provide financial and technical assistance to the Government of Brazil in creating an appropriately structured, viable and efficiently managed and operated agricultural marketing system to improve the marketing and distribution of food in the North and the Northeast. The facilities to be financed are large and medium-sized wholesale food markets and rural food collection centers, in furtherance of national and regional agricultural objectives and policies.

The ultimate project beneficiaries were to be the food producers and food consumers. The Capital Assistance Paper continues,

Food producers should receive higher margins for their produce because of standards and grade classifications, marketing information services and processing services established by the project. Improvement of the overall system should motivate farmers to produce greater amounts of produce for distribution, promising greater personal income to these individuals. Food consumers will benefit from better quality produce at lower prices due to more efficient and competitive marketing system.

An Agency for International Development (AID) loan of US\$15.1 million assisted in financing the North and Northeast regions' portion (40 percent) of a US\$100 million national program for constructing, equipping, and operating wholesale markets in urban centers and rural assembly markets at major interior collection points. The program emphasized the establishment of the following three types of market facilities:

1. Large wholesale markets in cities with populations greater than 500,000
2. Small wholesale markets in cities with populations between 170,000 and 500,000
3. Assembly markets in interior production areas

Technical assistance and training were provided for market news, product standardization and grading, wholesale market operation, retail food marketing, and rural marketing organizations.

Training included study trips abroad. The breakdown of the AID financial contribution is as follows:

Construction related	\$ 14,000,000
Technical assistance	
Marketing News Service	394,000
Grades and Standards	182,000
Special Technical Assistance	<u>434,000</u>
Total	1,100,000

The program took place in a continent-sized country with a rapidly growing economy and a population shifting to the cities at rates that reduced rural population from 65 percent of the total population in 1970 to less than 45 percent in 1985.

The economy of the Northeast grew considerably from 1965 to 1980. The regional product grew at an annual rate of 8.1 percent during this period, growing at almost 10 percent annually during the 1970s (Table 1). Capital formation also grew significantly in this same period, averaging 12 percent yearly in the 1965 to 1980 period. The Northeast's population grew from 22.6 million in 1960 to 34.8 million in 1980 (Table 2).

Despite the Northeast's impressive economic growth, food crop production, area, and yield grew little or declined between 1969 and 1979 (Table 3). Agricultural growth averaged less than half the growth of the other major economic sectors, and in the early 1980s it declined even further due in part to a severe 5-year drought. The contribution of agriculture (primary production) to the Northeast's regional income declined from 32.6 percent in 1965 to 17.3 percent in 1980 (Table 1).

The performance of basic food crops was well below average production trends. In the high-growth decade of the 1970s, only the industrial/export crops of cocoa and sugar performed well. Yields per unit of land declined for basic foodstuffs--beans, corn, and manioc--in this period.

The Northeast's share in total Brazilian production of basic crops and vegetables declined significantly through the 1970s (Table 4). From a share of 25 percent in 1968 and 1969, the Northeast's contribution declined to an average of 14.5 percent in 1981 and 1982. Although this reflects the drought conditions of the early 1970s, the trend in declining basic foods production is evident throughout the period and reflects fundamental structural differences between the Northeast region and Brazilian agriculture as a whole. Further, if such dynamic growth crops as soybeans are considered, the relative Northeast agricultural performance drops even more. Brazil's production of soybeans,

Table 1. Regional Production of Northeast Brazil in Constant 1975 Prices ( $\times 10^9$ ),  
Selected Years, 1960-1980

Sectors	1960	1965		1970		1980		Average Annual Growth Rate (%)			
	CrS	CrS	%	CrS	%	CrS	%	1960-65	1965-70	1970-80	1965-80
Primary	NA	18.8	32.6	16.8	22.5	32.3	17.3	NA	- 2.2	6.7	3.7
Secondary	NA	13.7	23.7	21.7	29.1	52.8	28.3	NA	9.6	9.3	9.4
Tertiary	<u>NA</u>	<u>25.2</u>	<u>43.7</u>	<u>36.1</u>	<u>48.4</u>	<u>101.3</u>	<u>54.3</u>	<u>NA</u>	<u>7.4</u>	<u>10.9</u>	<u>9.7</u>
Total	47.6	57.7	100.0	74.6	100.0	186.4	100.0	3.9	5.3	9.6	8.1

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Source: SUDENE/CPR/Divisao de Contas Regionais.

Table 2. Population of Northeast Brazil,  
Selected Years, 1940-1980

Year	Population	Annual Growth Rate	Northeast as Percentage of Total Population
1940	14,434,080	--	35.0
1950	17,973,413	2.2	34.6
1960	22,611,445	2.1	32.3
1970	28,111,927	2.4	30.2
1980	34,811,077	2.2	29.2

Source: Brazilian Institute of Geography and Statistics,  
Demographic Census for 1940, 1950, 1960, 1970, and 1980.

Table 3. Northeast Brazil: Average Annual Growth in Production,  
Cultivated Area, and Yield of Selected Crops,  
Crop Years 1969/1971-1977/1979

Crop	Production	Area	Yield
<b>Basic Food Crops</b>			
Beans	-0.3	3.6	-3.8
Corn	0.9	2.9	-1.9
Manioc	0.9	3.1	-2.1
Rice	4.4	3.6	0.8
<b>Industrial/Export Crops</b>			
Cocoa	4.1	-0.2	4.3
Cotton	-2.9	0.1	-3.0
Sugarcane	7.1	5.9	1.1

Source: Brazilian Institute of Geography and Statistics, in World  
Bank 1983).

Table 4. Comparison of Production of Basic Crops and Vegetables<sup>a</sup> in the Northeast and Brazil as a Whole, 1968-1982 (thousands of tons)

Year	Northeast	Brazil	Northeast as a percentage of Brazil
1968	16,422	66,307	25
1969	16,805	67,920	25
1970	14,688	71,550	20
1971	16,916	--	--
1972	16,883	--	--
1973	15,718	77,596	20
1974	14,371	84,774	17
1975	16,731	86,475	19
1976	15,646	95,016	16
1977	18,117	95,656	19
1978	17,962	91,806	20
1979	17,479	97,704	18
1980	17,064	114,278	15
1981	16,438	116,831	14
1982	17,820	120,023	15

<sup>a</sup>Beans, corn, manioc, oranges, rice, tomatoes, and wheat.

Source: Anuario Estatístico do Brasil 1968-1982; Mission estimates.

which are not grown in the Northeast, increased from 654,000 tons in 1968 to 15.153 million tons in 1980.

Therefore, the overall impressive economic growth of the Northeast has not benefited a significant part of the region's population, especially its rural population. Of the Northeast's labor force (estimated at 12 million people in 1980), about 50 percent were occupied in the primary sector, 15 percent in the secondary, and 34 percent in the tertiary. Close to four-fifths of the 4.6 million agricultural labor force earns an income less than the minimum wage, and around 2.6 million earn an income that is less than half the minimum wage.

At the root of the region's persistent poverty in the midst of its economic growth is its system of inequitable distribution of land and land tenure. (See Tables 5, 6, and 7 for farm distribution by size and type of agricultural labor by farm size.) Minifundiarios, sharecroppers, and landless farm workers have little or no access to marketing credit or rural extension services. Efforts to provide access to such services within the prevailing tenure system have not been successful. Official banks allow sharecroppers and renters to borrow seasonal credit, provided the landowner signs a "release" document (carta de anuencia). Landowners, however, are reluctant to do so and expect some favor in return for their signature. Investment credit is not available for nonlandowners. A survey of Northeast agriculture by the Superintendency for the Development of the Northeast (SUDENE) and the World Bank in the mid-1970s found the following:

Of the 6 million [agents in agriculture], less than 800,000 own land. Another 900,000 are working members of landowners' families; 26,000 are renters; and 1.14 million are either sharecroppers or permanent workers. Nearly 3 million agricultural workers have no formal or legal access to land and exist on temporary employment or scratch out a living on landholdings so poor or so remote....

It is this mass of rural poor who contribute to the massive exodus from the rural areas, settling in the peripheries of the large cities of the Northeast and the Central-South regions.

The Northeast region's migration in the 1970-1980 decade was dominated by population movements within the region, mainly toward the metropolitan state capital areas, where people settled in conditions of unemployment, underemployment, and poverty. For example, close to 100 percent of the population that migrated to the city of Recife during this period settled in its peripheral poverty area (Jorge 1981). Although migration within the region was the dominant tendency, the Northeast continued to lose

Table 5. Farm Size Distribution in Northeast Brazil, 1975

Farm Size (Hectares)	Number of Farms (000s)	Percentage of Farms	Total Area (ha 000s)	Percentage of Total Area
Less than 10	1,641.9	69.9	4,311.5	5.5
10-100	567.0	24.1	18,185.6	23.1
100-1,000	131.1	5.6	33,222.8	42.2
1,000-10,000	8.9	0.4	18,257.5	23.2
Over 10,000	0.2	0.0	4,711.6	6.0
Total	2,349.1	100.0	78,690.5	100.0

Source: Brazilian Institute of Geography and Statistics, Censo Agropecuario, 1975, in World Bank (1983).

Table 6. Northeast Brazil: Farm Size Distribution--1960, 1970, and 1980

Farm Size (hectares)	Number of Farms						Total Area of Farms					
	1960		1970		1980		1960		1970		1980	
	No.	%	No.	%	No.	%	Ha	%	Ha	%	Ha	%
Less than 10	873,124	62.0	1,499,625	68.3	1,658,152	67.8	2,745,915	4.3	4,069,466	5.5	4,487,962	5.0
10-20	154,063	10.9	217,622	9.9	243,718	9.9	2,128,904	3.4	2,998,338	4.0	3,312,690	3.7
20-50	178,754	12.7	231,031	10.5	263,603	10.8	5,524,834	8.8	7,145,894	9.6	8,120,839	9.1
50-100	88,366	6.3	112,250	5.1	129,723	5.3	6,090,430	9.7	7,736,359	10.4	8,847,285	9.9
100-500	92,567	6.6	111,988	5.1	124,924	5.1	18,899,100	30.0	22,551,175	30.4	24,991,972	27.9
500 or more	<u>20,483</u>	<u>1.5</u>	<u>22,796</u>	<u>1.1</u>	<u>25,995</u>	<u>1.1</u>	<u>27,601,253</u>	<u>43.8</u>	<u>29,795,863</u>	<u>40.1</u>	<u>39,792,756</u>	<u>44.4</u>
Total	1,407,357	100.0	2,195,312	100.0	2,446,115	100.0	62,990,436	100.0	74,297,095	100.0	89,553,504	100.0

Source: Brazilian Institute of Geography and Statistics, Agricultural Census for 1980, preliminary data.

Table 7. Northeast Brazil: Types of Agricultural Laborers by Farm Size, 1960, 1970, and 1975

Area (hectares)	Census Year	Farms		Family Labor		Temporary Workers		Permanent Workers		Sharecroppers		Others	
		No.	% Change	No.	% Change	No.	% Change	No.	% Change	No.	% Change	No.	% Change
Less than 10	1960	3,017,936		2,450,256		393,560		50,992		29,944		93,184	
	1970	4,272,987	41.6	4,041,631	64.9	164,753	-58.1	26,966	-47.1	18,533	-38.8	21,304	-77.1
	1975	5,076,209	18.8	4,831,771	19.6		20.5		-13.8		-42.1		-43.3
10-50	1960	1,747,070		1,100,250		463,987		75,711		53,679		53,443	
	1970	1,768,003	1.2	1,467,328	33.4	173,915	-62.5	48,337	-36.2	36,714	-31.6	41,709	-22.0
	1975	1,947,407	10.1	1,659,684	13.1		1.5		24.5		-17.4		-50.2
50-200	1960	1,058,508		487,839		366,753		89,909		30,339		20,751	
	1970	887,497	-16.2	593,040	21.6	140,529	-61.7	67,332	-25.1	64,234	-29.0	49,773	-17.7
	1975	994,568	12.1	678,684	14.4		1.8		47.4		14.1		-47.4
200-500	1960	460,462		126,140		186,242		81,164		52,065		21,538	
	1970	324,219	-29.6	137,051	8.6	76,495	-58.9	65,187	-19.7	39,057	-33.3	27,859	-30.2
	1975	355,101	9.5	151,699	10.7		-10.8		33.8		42.7		-44.4
500 or more	1960	373,618		63,070		160,776		78,517		37,164		10,812	
	1970	293,394	-21.5	60,648	-3.8	86,821	-46.0	90,618	15.4	42,839	-22.3	28,416	-22.6
	1975	306,601	4.5	66,198	9.2		-27.7		28.6		47.5		-45.6
Total	1960	6,657,594		4,227,555		1,571,318		116,565		49,128		11,958	
	1970	7,546,100	13.3	6,299,698	49.0	642,513	-59.1	298,440	-20.7	229,753	-30.4	252,675	-42.5
	1975	8,679,886	15.0	7,388,036	17.2	648,954	1.0	386,436	29.5	160,017	12.0	145,432	-46.9
											77,149		

Source: Brazilian Institute of Geography and Statistics, Agricultural Census for 1960, 1970, and 1975.

population to the rest of Brazil. An estimated 2.2 million Northeasterners emigrated outside the region during the 1970s.

Urban population in the region increased from 26 percent of the regional population in 1950 to 37 percent in 1970 and more than 50 percent by 1980 (Table 8). This influx into urban areas has resulted in large unemployment and underemployment of the labor force in the region's cities, affecting an estimated 30-50 percent of the urban population. About 50 percent of the labor force in urban areas earns a monthly income below the minimum wage; some 1.1 million workers receive an income of less than half the minimum wage. The highest real minimum wage in the region declined during the 1960s and was only 7 percent higher in 1984 than in 1969 (Table 9). It is estimated that in 1965 an urban worker earning the minimum wage needed to work 87 hours to purchase the basic monthly food basket; in 1980, a worker needed to work 179 hours to purchase the same basket.<sup>1</sup> The socioeconomic indicators given in Table 10 provide further evidence of the Northeast region's poverty.

The Northeast region's increasing poverty in the midst of its impressive economic growth is not surprising. The pervasive underdevelopment of the region, particularly in agriculture, has deep historical roots. The Northeast Agricultural Marketing project, as Section 2 discusses, was an attempt to respond to that underdevelopment; but the project was only one element of a more comprehensive SUDENE strategy that for various reasons was not implemented.

### 1.2 Origins of the Project: SUDENE's Strategy for Economic Growth in the Northeast

The Brazilian Northeast is marked by chronic food deficiency. Although the region is predominantly agrarian, the organization of agriculture based on the latifundio, the dominance of sugar, and the history of slavery has not favored the development of food production for local needs. As described by Gilberto Freyre, one of the most well-known students of the history of the region,

The eating habits of the Brazilian have been deficient and unstable even within an agricultural economy [in part because of] the tradition of slavery which to a large extent conditioned our formation.... Irregular production, deficient sanitation and conservation ... and the antagonism that soon emerged ... between estate agriculture, the stronger culture dominant in the

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<sup>1</sup>Research by the Centro Josue de Casto, Recife 1980.

Table 8. Degree of Urbanization in Brazil,  
Selected Years, 1940-1980

Region	Degree of Urbanization <sup>a</sup> (percentage)				
	1940	1950	1960	1970	1980
North	27.8	31.5	37.8	45.1	51.7
Northeast	23.4	26.4	34.2	41.8	50.4
South	27.7	29.5	37.6	44.3	62.4
Southeast	39.4	47.6	57.4	72.7	82.8
Central-West	21.5	24.4	35.0	48.0	67.8

<sup>a</sup>Urban population as a percentage of total regional population.

Source: Brazilian Institute of Geography and Statistics,  
Demographic Census for 1970 and 1980.

Table 9. Changes in Urban Population and Real (deflated) Per Capita Income and Minimum Wage in the Northeast (1969 = 100)

Year	Urban Population	Urban Per Capita Income	Highest Regional Minimum Wage
1960	62.2	--	173.4
1969	100.0	100.0	100.0
1970	104.6	101.7	98.5
1971	108.9	103.4	98.8
1972	113.3	110.9	100.4
1973	118.0	118.8	101.6
1974	112.8	126.7	98.4
1975	127.9	133.2	107.2
1976	133.2	145.0	109.7
1977	138.6	152.5	110.9
1978	144.3	165.3	116.6
1979	150.3	175.9	119.0
1980	156.4	181.3	116.8
1981	163.6	175.7	110.0
1982	169.6	--	116.3
1983	176.5	--	113.0
1984	183.8	--	107.0

Source: Brazilian Institute of Geography and Statistics, for population and minimum wage; SUDENE/CPR for income data.

Table 10. Selected Socioeconomic Indicators for the Northeast Region and the Rest of Brazil

Indicator	Northeast			Rest of Brazil		
	Regional	Urban	Rural	National Average	Urban	Rural
Per Capita Gross Domestic Product (1979 US\$)	793	--	--	2,002a	--	--
Poverty Families (percent total families), 1979b	74	--	--	42	--	--
Infant Mortality, 1978-1984c	122	--	--	89a	--	--
Adequate Diet (percent total population), 1974-1975d	21	9	30	38	28	58
Access to Sanitation (percent total population), 1980e	48	78	17	87	95	64
Literacy (percent population > 5 years old), 1980	48	64	31	77	82	61
Primary School Participation (percent population 5-14 yrs. old), 1979	70	89	55	82	89	65

aData refer to national average.

bFamilies earning the equivalent of two or less minimum wages per month, including income in kind.

cDeaths of infants aged 0-12 months per 1,000 live births.

dDiet satisfying Food and Agriculture Organization/World Health Organization low-calorie requirements.

ePopulation of homes with any sanitary device (e.g., latrine, septic tank)

Sources: SUDENE (1980), (1981); Brazilian Institute of Geography and Statistics (1981); World Bank (1979); and Tabulacoes Avancadas do Censo Demografico, 1980, in World Bank (1983).

coast, and livestock farming, exclusive to the dry areas ... deprived the rural population, even the wealthy landowners, of a regular and constant supply of fresh food.

Even the owners of the sugar estates of Pernambuco and Bahia ate poorly: beef of bad quality and only occasionally; limited and spoiled fruit; vegetables rarely.... The deficiencies in quality and quantity of food have been present since the beginning in the miserly state of the nutrition of a large part of the population (Freyre 1977, 35-43).<sup>2</sup>

### 1.2.1 Outline of the Strategy

Food production and distribution became the central focus of a major development effort in the region following the 1958 drought. It was in the aftermath of this drought that SUDENE was created as the principal institution for the development of the Northeast. The landmark initial effort of SUDENE was the program recommended by the Grupo de Trabalho para o Desenvolvimento do Nordeste (GTDN) (GTDN 1967).<sup>3</sup> GTDN's strategy was to promote Northeast development by broadening internal regional demand, and thus reducing the region's economic dependence on external demand for sugarcane, the region's principal crop. The SUDENE/GTDN strategy sought to replicate what was happening in the Southern region of Brazil, where the income from coffee production was being more broadly shared and internal linkages were making growth and diversification possible.

Recognizing the limitations of externally led growth, SUDENE sought alternatives to sugar production. Agricultural diversification of the coastal sugar zone was an important element of GTDN's strategy. The major emphasis of the strategy was industrial development and incentives for achieving it. A second element was to restructure the economy of the semiarid region to make it less vulnerable to the economic effects of droughts. Finally, the expansion of the agricultural frontier through planned settlement was intended to absorb the excess population that the other elements of the strategy could not have accommodated.

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<sup>2</sup>Freyre's work also includes a substantive discussion of the food deficiency problem and a rich bibliography on the subject. The work has been translated into English as The Masters and the Slaves, Alfred A. Knopf, New York, 1956.

<sup>3</sup>The leader of this work was Brazilian economist, Celso Furtado.

### 1.2.2 The Role of Agriculture and Food Marketing

Adequate production and marketing of food were important prerequisites of this strategy in order to reduce the disproportionate dependence on food imported from the Central-South. The gravity of the food situation was expected to worsen as the population expanded, while the good quality land--dominated by a few producers--was occupied by sugarcane destined for export.

The SUDENE/GTDN strategy, therefore, related industrial development to the simultaneous development of agriculture:

We conclude that the weakness of Northeast industry resides in the [underdeveloped] agriculture of the region. A first objective of industrial development must be to modify the tendency of increases in the price of food. The restructuring of Northeast agriculture, aiming at the most rational intensive use of its scarce resources of land and water, constitutes a prerequisite for industrialization. It is for this reason that the plan of action here recommended gives to the problem of food production and marketing to the urban areas the same high priority for investment as it does for industry (emphasis added) (GTDN 1967, 60).

The high priority given to the production and distribution of food constituted an important element of the plan. Growth in food production was perceived as a precondition to industrialization, together with the restructuring of the economy in the semi-arid interior in order to make it more resistant to the economic effects of droughts. Agricultural development was to focus on the subsistence sector, the one most vulnerable to drought, in part by the settlement of the humid frontier in the pre-Amazon area. The other direction of agricultural development was to alter the production base in the humid coastal region from exclusive sugarcane production to diversified agriculture, especially basic foodstuffs and vegetables necessary to supply the expanding urban centers.

With the importance of agricultural development firmly established, concern with marketing, which is the focus of this review, was a logical continuation of the strategy. In March of 1960, SUDENE initiated work on defining a project in food marketing with the technical assistance of a mission from France (SUDENE/SCET 1960/61). It was this cooperation that led to the first detailed proposal for wholesale marketing centers.

SUDENE's food marketing efforts continued with an in-depth study of the marketing system in the Recife area, with cooperation from Michigan State University in 1967-1969. The USAID-financed project was a response to these earlier developments and

recommendations. The recommendations of the regional findings were accepted and taken over at the national level by the Executive Group for the Modernization of Food Supply (GEMAB). Under the then dominant political/military objective of national integration, GEMAB had ultimate responsibility for the project's design and implementation (see Appendix B). The project was part of Brazil's US\$100 million national agricultural marketing program which began in 1971; US\$40 million was allocated to the North and Northeast regions. AID contributed a US\$15 million loan to the program in the North and Northeast regions: US\$14 million for construction and US\$1 million for technical assistance, training, and equipment.

The Northeast Brazil Agricultural Marketing project, therefore, represented one of the principal realizations of SUDENE's strategy for Northeast development. When it came to implementation, however, the other elements of the Northeast strategy were ignored.

## 2. THE PROJECT AND SPECIFIC TECHNOLOGY TRANSFERS

The Northeast Brazil Agricultural Marketing project was well designed, having a distinct advantage over other major projects of the time: a comprehensive in-depth study of agricultural marketing in the Recife area of the Northeast had been conducted prior to the project's implementation (Michigan State University 1969). The project was further supported by SUDENE's previous work in food marketing and by the technical assistance plan of the French mission (SUDENE/SCET 1960/61).

The central element of the project is the national system of wholesale centers, known as Ceasas.<sup>4</sup> These centers were to contribute to the modernization of wholesale marketing of fruit and vegetables in the large metropolitan areas--in the Northeast case, the targeted areas were the state capitals. The Ceasas were the first important project component to be implemented and were the element around which the restructuring of the marketing system was to take place.

In expanding beyond the Ceasas, the project introduced producer and rural assembly markets. Market news, product grades and standards, and marketing management were the other complementary elements of the project.

Most technologies extended under the project were successfully transferred. The political will to support the project

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<sup>4</sup>Though the term "Ceasa" is an acronym for wholesale centers, in practice it is used as a word.

remains strong. The project was timely in serving the emerging urban middle class and in integrating the national market. The active involvement of competent professionals and officials in project design and the project's guaranteed financing ensured the support necessary for successful implementation. The chronology of events given in Appendix B details the impressive accomplishments of the project. Below key technologies extended by the project are examined. Section 3 analyzes the impact of the transfers on the project's final objectives--assisting its ultimate beneficiaries--and presents general lessons learned.

## 2.1 Wholesale Markets

The wholesale markets supported by the project in North and Northeast Brazil formed part of a national system of wholesale markets that was constructed throughout the country in the 1970s. Ownership of the markets is shared among Federal, state, and local governments, with the Federal Government holding the majority interest in all but a few markets. The wholesale markets provide physical facilities and related services to private sector merchants who rent space from the Ceasa for their business. The Ceasas do not buy or sell products.

These facilities are being used extensively. The weighted average rate of utilization equalled 94 percent in 1984, with a total of 3,201 users (Table 11). In some of the markets, lack of space is a problem and additional space is needed for expansion.

In all cases, volume handled by the markets increased steadily from 1975 to 1982. The decline in volume in recent years appears to be due to the economic recession of Brazil and the severe Northeast drought (Table 12). Because the markets were designed to handle primarily perishable foods (mainly fresh fruits and vegetables), the volume of other foods is quite small. In several of the markets visited, the markets' managers indicated an interest in increasing their volume by adding other food products such as cereals, meat, and fish.

The major problems of the wholesale markets are financial (Tables 13 and 14). The markets are losing money and are in arrears in their payments to Brazil's National Bank for Economic Development (BNDES) for their construction loans. The financial problems have become more severe in recent years because of the high inflation rate and the associated monetary correction on the outstanding loan balance and interest charged. Most of the markets run deficits in their operations usually because of high operating costs resulting from an excessive number of employees, especially at the central-level bureaucracies.

Table 11. Size and Utilization of Wholesale Markets in North and Northeast Brazil, 1984

Wholesale Market	Total Area Available (m <sup>2</sup> )	Total Area Occupied (m <sup>2</sup> )	Rate of Utilization	Number of Users
Alagoas	4,154	4,115	99.1	147
Amazonas	9,684	7,628	78.8	220
Bahia	19,811	18,726	94.5	1,634
Ceara (a)	13,167	13,562	103.0	307
Maranhao	2,281	2,137	93.7	186
Para	9,392	8,461	90.1	214
Paraiba	7,810	6,243	79.9	131
Pernambuco	29,104	28,023	96.3	418
Piaui	2,687	2,669	99.3	191
Rio Grande do Norte <sup>a</sup>	1,935	2,315	119.6	109
Sergipe (a)	<u>4,923</u>	<u>5,162</u>	<u>104.8</u>	<u>144</u>
Total	104,948	99,041	94.4	3,201

<sup>a</sup>Markets that reported a utilization rate over 100 percent.

Source: COBAL (Brazilian Food Company).

Table 12. Quantity of Food Handled by Wholesale Markets  
in North and Northeast Brazil, 1975-1984  
(thousands of metric tons)

Wholesale Market	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Alagoas										
Total Food	--	38.3	47.9	52.1	61.3	71.1	76.0	82.9	80.3	85.0
Perishables	--	--	--	51.7	60.0	70.2	74.6	80.8	77.9	81.7
Amazonas										
Total Food	41.9	55.2	55.8	56.1	65.5	65.7	59.4	52.5	45.8	31.4
Perishables	--	--	--	43.0	50.0	53.1	48.5	42.1	37.6	25.4
Bahia										
Total Food	137.8	164.1	166.3	183.7	161.6	171.9	196.7	233.4	253.1	245.1
Perishables	--	--	--	149.9	138.9	146.1	149.4	181.1	198.0	200.6
Ceara										
Total Food	60.8	62.1	102.3	114.4	138.7	134.9	139.4	150.4	152.2	139.3
Perishables	--	--	--	114.4	138.5	134.5	138.9	149.5	150.9	138.8
Maranhao										
Total Food	--	--	7.3	42.5	43.0	40.7	38.9	57.4	57.8	47.8
Perishables	--	--	--	42.4	42.9	40.5	38.1	54.0	53.6	43.7
Para										
Total Food	75.5	81.6	83.6	94.9	93.1	103.3	108.9	117.4	113.0	102.7
Perishables	--	--	--	82.7	87.1	97.7	96.9	104.4	106.1	96.1
Paraiba (J.P.)										
Total Food	32.9	40.0	45.0	50.8	61.0	60.1	58.8	63.7	57.4	48.0
Perishables	--	--	--	50.8	61.0	59.7	58.1	63.0	56.8	47.3

Table 12. Quantity of Food Handled by Wholesale Markets  
in North and Northeast Brazil, 1975-1984 (cont.)

Wholesale Market	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984
Paraiba (C.G.)										
Total Food	--	25.2	55.9	64.7	74.1	78.0	70.7	75.1	70.8	63.8
Perishables	--	--	--	64.5	73.8	77.5	69.9	74.4	70.3	63.5
Pernambuco										
Total Food	176.7	205.5	237.9	265.1	320.9	308.2	331.1	339.0	330.4	296.4
Perishables	--	--	--	264.5	320.0	306.2	329.6	334.1	319.0	286.7
Piaui										
Total Food	--	0.9	27.6	35.5	43.3	47.4	55.5	72.9	73.8	72.9
Perishables	--	--	--	34.6	42.4	46.8	54.8	71.8	72.1	70.6
Rio Grande do Norte										
Total Food	--	10.2	50.9	57.8	64.1	63.5	62.4	70.1	69.2	62.3
Perishables	--	--	--	57.7	64.0	63.4	62.0	69.9	69.0	62.1
Sergipe										
Total Food	24.1	22.2	27.9	29.9	42.6	46.5	48.0	50.2	44.5	41.7
Perishables	--	--	--	29.8	42.2	46.1	46.3	49.8	43.9	41.3

Source: COBAL (Brazilian Food Company).

Table 13. Financial Obligations of the National System of Wholesale Centers (Ceasas) as of December 31, 1984 (in Cr\$1,000)

Ceasa	Loans	Obligations to			Total
		Employees <sup>a</sup>	Suppliers	Others	
Alagoas	186,448	24,551	6,925	40,906	258,830
Amazonas	1,131,708	56,778	69,904	51,329	1,309,719
Bahia	818,931	130,807	311,588	107,534	1,368,860
CAMP	3,468,148	33,433	5,856	32,198	3,539,635
Ceara	1,080,753	18,135	812	176,852	1,276,552
Federal District	1,293	105,642	75,857	141,429	324,221
Espirito Santo	141,837	17,851	96,434	44,521	300,643
Goiás	2,360,262	33,780	19,463	36,670	2,450,175
Maranhãs	--	49,315	7,791	52,186	109,292
Mato Grosso	3,477,117	99,473	197,248	345,298	4,119,136
Mato Grosso do Sul	--	78,385	19,947	28,236	126,568
Para	1,460,472	74,172	49,033	33,252	1,616,929
Paraíba	2,739,337	16,641	15,396	86,325	2,857,699
Paraná	6,457,014	82,341	64,170	199,256	6,802,781
Pernambuco	992,517	26,006	32,540	139,848	1,190,911
Piauí	478,961	17,165	27,023	7,726	530,875
Rio de Janeiro	19,118,944	1,368,958	676,636	1,488,339	22,652,877
Rio Grande do Norte	118,540	38,506	5,822	18,256	181,132
Rio Grande do Sul	952,498	63,916	43,336	223,015	1,282,765
Santa Catarina	--	66,288	14,331	47,630	128,249
Sergipe	126,124	14,639	9,221	63,391	213,375
Total	45,110,912	2,416,782	1,749,333	3,364,197	52,641,224

<sup>a</sup> Engargos sociais.

Source: COBAL (Brazilian Food Company).

Table 14. Indicators of Financial Performance of Ceasas in North and Northeast Brazil  
as of December 31, 1984  
(in Cr\$1,000)

Ceasa	Expenses	Receipts	Surplus or Deficit	Expenses/ Receipts (%)	Wages/ Expenses (%)	Wages/ Receipts (%)	Expenses/ Quantity Marketed (Cr\$/ton)	Wages/ Quantity Marketed (Cr\$/ton)
Alagoas	401,554	341,194	(60,360)	118	77	90	4.72	3.63
Bahia	3,633,800	2,033,355	(1,600,445)	179	65	116	14.82	9.61
Ceara	674,695	759,295	84,600	89	65	58	4.84	3.16
Maranhao	380,935	345,712	(35,223)	110	68	75	7.97	5.42
Paraiba	491,879	339,558	(152,321)	145	67	97	4.40	2.94
Pernambuco	1,191,291	1,222,328	31,037	97	52	51	4.02	2.09
Piaui	279,618	283,348	3,730	99	74	73	3.83	2.82
Rio Grande do Norte	256,734	199,054	(57,680)	129	75	96	3.59	2.68
Sergipe	371,197	277,838	(93,359)	134	70	94	8.89	6.26

Note: Some extraordinary expenses and receipts are not included.

Source: COBAL (Brazilian Food Company).

It was understood from the beginning that part of the programs's cost was to be borne by the public. The social benefits of the program were considered necessary public goods to be paid for by the state. The usual issues of public policy in such cases were present: how much of such social benefits should be allocated to public financing, and how efficiently could the system deliver the planned services. Although it is difficult to precisely judge the elements of public versus private good of the program, operational efficiency is declining as the top-heavy staffing reaches lower administrative levels, and political pressures and interference from the state governments are increasing. The apparently increasing deficits of the Ceasas in an economy requiring severe curtailment of Government deficits remains a major problem of the program throughout the country.

## 2.2 Assembly and Producer Markets

The rural assembly markets, located at convergence centers in production areas, have not operated as successfully as the wholesale markets (Table 15). At an assembly market, producers sell to market intermediaries, who in turn sell to wholesalers at the market. Some markets have closed and others operate only part of the time. Poor location is a principal reason for the failure of some of these markets; those assembly markets that are well located in convergence centers appear to be doing quite well.

At producer markets, producers sell their produce directly to the consumer. The producer markets have in general been a failure.

## 2.3 Product Grades and Standards

Despite considerable effort to improve grades and standards for fruit and vegetable products, only very limited success has been achieved. Units of weight and measure have not been standardized, which limits the access of Northeast products to markets in other regions. Further, without uniform grades and standards, long-distance trading of commodities by telephone is nearly impossible. During interviews in the field, several people stated that the producers, consumers, and merchants of the area are not yet ready for improved grades and standards. The pricing efficiency gains possible from improved grades and standards and long-distance trading were not realized even though the technology was available through the project.

For some products such as oranges, grades and standards and handling have improved. Oranges are now washed, graded, and

Table 15. Location and Characteristics of Producer Markets  
(Assembly Markets) in North and Northeast Brazil, 1984

Market Location	Land Area (square meters)	Con- structed Area (square meters)	Amount Invested (millions of 1978 Cr\$)	Amount Sold in 1984 (1,000 MT)
Maranhao				
Medio Mearim	--	--	--	0.6
Ceara				
Baturite	12,000	1,756	65	8.8
Ibiapaba	49,500	2,330	71	15.1
Uruburetama	33,823	1,967	45	5.3
Paraiba				
Campina Grande	13,442	1,711	--	24.7
Pernambuco				
Bezerros	17,500	1,577	41	a
Santa Maria de Boa Vista	--	--	--	9.6
Belem do Sao Francisco	48,000	2,307	77	18.6
Sergipe				
Boquim	8,200	1,965	--	49.0
Umbauba	--	--	--	2.9
Bahia				
Jaguaquara	--	--	--	39.2

<sup>a</sup>Closed in 1984.

Source: COBAL (Brazilian Food Company).

waxed by machines in the assembly markets in Sergipe and other areas. Nearly all handling of other fruits and vegetables is done manually because of abundant supplies of low-cost-labor. Packaging is limited to wooden boxes, (non-standardized) for some products and to sacks and baskets for a few others.

#### 2.4 Sanitation and Spoilage

Product quality has improved markedly in the wholesale markets because of better sanitation. The amount and quality of space in the new markets is a considerable improvement over that in street markets and wholesale spaces. Spoilage has also been reduced. Estimates vary from 30 to 50 percent reduction in spoilage over spoilage rates prior to the project.

#### 2.5 Management Training

Over 40 percent of the US\$1.1 million technical assistance budget was allocated to marketing management training. Human resources and organization for managing the wholesale markets have been firmly established by the project. About half of those who received technical assistance and training through the project are still working in the wholesale markets. Project training has created a competent wholesale market management and technical staff in Brazil and in the Northeast region. The Northeast now has a significant pool of such professionals contributing both inside and outside the wholesale marketing system. The fruit and vegetable purchaser of a major supermarket chain is a professional trained by the project, as is the marketing coordinator of the recent major initiative for Northeast development, the Projeto Nordeste.

#### 2.6 Market Information Service

A major share of the technical assistance and training budget of the USAID loan was allocated to the market information service. This service had been initiated in the south of Brazil with the assistance of USAID and the U.S. Department of Agriculture. The project expanded this technology to the North and Northeast regions of Brazil. Daily wholesale price information is now collected and distributed in all the wholesale markets. The market information service is functioning well; however, little of this information is used by farmers, wholesalers, or producers in the North and Northeast because of the unreadiness to adopt product standards and grades (see Section 3).

## 2.7 Characteristics of Market Structure at the Farm Level

The effect of the wholesale markets on competition at the retail and wholesale level is difficult to evaluate. On the one hand, the number of merchants has increased, which should make the marketing system more competitive. On the other hand, the merchants are now more concentrated in the wholesale market, so that the opportunity to control prices may have increased.

The general consensus is that marketing margins have been reduced, although this is not easy to estimate because the available price information is mostly expected, not actual, market prices, which already reflect some intermediate<sup>5</sup> costs. The control of Ceasa marketing by relatively few wholesalers for a long time, with very low turnover, suggests that entry is not easy. A fee above Ceasa rental rates is paid in some of the markets to sell a wholesaler's rights.

The project has not caused any changes in the marketing chain--the structure of the market from producer to consumer--the steps are as follows:

Producer--> Local intermediary (trucker)-->  
Ceasa wholesaler--> Small wholesalers-->  
Retailer--> Consumer

Although several marketing channels are potentially available at the local level, what happens in practice is that first-line traders establish virtual monopolies by providing such complementary services as credit, transportation, and food to small producers.

The private trading network is the most prevalent channel for agricultural products produced by small farmers; cooperatives and public agencies also purchase limited amounts in some areas. Private traders perform valuable services (e.g., assembly, classification, transport, bulk sales) under less than ideal circumstances. However, there is tremendous variation in types of intermediaries, methods of operation, share of final demand price and profit margins (Pomerantz 1985).

Several factors limit the marketing options available to small farmers:

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<sup>5</sup>Price data is generally collected by the Agricultural Marketing Information System (SIMA). Prices are collected at the municipal, not the producer, level.

- Rural roads are often poor and transport is expensive.
- The quality of products offered is poor and of variable quality.
- Access to credit is insufficient, mainly because of lack of land ownership.
- Access to price information is poor, with much of the information, which is rarely current, coming from neighbors and local intermediaries.
- On-farm and local storage facilities are almost nonexistent.
- Cooperatives provide only limited services, which are perceived as expensive to a small number of members.
- Seasonal price variations are large, increasingly influenced by fluctuations originating in Southern Brazil.

In sum, the small farmer has limited bargaining power and few practical and tangible options for selling marketable produce. Having no storage facilities and needing to pay debt obligations, small farmers must sell their produce. Various factors are at play, with neither private traders, the farmers, nor Government policy and activities solely responsible for the present situation or for its improvement. Improvements are needed, however, not only because of rural welfare considerations, but also to ensure a sufficient and regular food supply at reasonable prices to urban centers (Pomerantz 1985).

## 2.8 The Importance of Supermarkets

The entrance of supermarkets into the retail market for fruits and vegetables is a significant development for competition. The emerging importance of the supermarket was already evident at the time of the SUDENE/Michigan States University marketing study of the mid-1960s. The study found that "There is a substantial distance between the mass of the traditional system operators and the few largest retail operations, which will be referred to as supermarkets. Whereas traditional operators are stagnant or decreasing in volume, supermarkets are expanding rapidly (Michigan State University 1969). Because of their volume of operations and location throughout the Northeast region and the rest of Brazil, many supermarkets have been able to bypass the Ceasas.

Indeed, an increasing proportion of the fruit and vegetable supply bypasses the central wholesale markets. Supermarkets buy

from the wholesale markets, but they do not depend exclusively on wholesale markets for their supply as do traditional retailers (Table 16). Precise figures on the quantity of fruits and vegetables that bypass the wholesale markets are not available, and these amounts would vary from city to city. However, interviews with market managers indicate that the share purchased directly by supermarkets from producers outside the Ceasas is significant and growing. In some cities it may already represent one-third to one-half of the fruit and vegetable volume. The traditional retail-wholesale system for these products serves as an effective competitor to protect consumers from possible oligopolistic pricing by the supermarkets. Figure 1 identifies the principal actors and forces of food marketing and shows the complexity of the system and the project's limited "leverage."

### 3. PROJECT IMPACTS AND CONCLUSIONS

#### 3.1 The Weight of the Environment

The internal efficiency of the project--the timely implementation of what was planned--was fully adequate. The accomplishments documented in Appendix B are impressive. To identify impact and analyze the bigger picture of what was accomplished and learned from this experience, however, the project must be examined in relation to its future and its final objectives: lasting benefits.

The project contributed significantly to the modernization of the marketing of fruits and vegetables in the Northeast region of Brazil. Its timing was opportune in being able to satisfy the needs of the rapidly growing urban middle and upper classes. It helped to integrate the Northeast region with the national market. But the project did little to improve the production and income levels of the Northeast producers or to benefit the increasing mass of the urban poor.

Urban concentration, which accompanied the rapid economic growth of Brazil and the Northeast during the period, spelled a need for this project. However, the structural conditions prevailing in the Northeast led to massive unemployment and under employment, landlessness and meager incomes. Only those with higher incomes and actively participating in the market were able to benefit from the project (see Subsection 3.2).

The limited project impact on its intended beneficiaries--producers and consumers--is explained by the environmental forces and characteristics that shaped Brazil and the Northeast region. These same forces also limited the success of other major Northeast programs such as the 34/18 tax incentive programs, Pro-terra

Table 16. Consumer Buying Habits by Type of Retail Supplier and Income Group as a Percentage of Expenditure, Greater Recife, Brazil, 1973

Type of Retail Supplier	Income Group (a)									
	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-9	9-15	15 or more
Open Fair	20.68	22.85	22.36	18.18	16.14	17.57	17.40	15.44	12.29	9.18
Supermarket	15.36	16.37	19.18	22.86	28.03	27.90	32.64	33.76	39.26	46.40
Neighborhood	29.89	25.94	19.12	19.51	14.35	13.71	10.42	8.48	5.10	1.26
Bakery	5.54	7.18	9.64	9.55	9.40	8.22	9.31	8.92	8.05	7.38
Public Market	7.55	8.00	8.55	5.43	7.71	6.84	5.00	7.61	6.54	6.52
Street Vendor	3.02	2.68	1.87	1.52	1.79	2.95	1.64	2.49	2.31	2.34
Producer	0.94	1.39	1.64	1.99	1.87	2.17	2.07	1.39	1.69	1.31

a

Income is measured in units of the minimum monthly wage, which was Cr\$240,000 at the time of the study.

Source: SUDENE and Federal University of Pernambuco (1975).



land reform, Polonordeste rural development, development of cooperatives, Geran sugar reform, irrigation, and settlement policy.

Although Northeast Brazil received the highest priority throughout the years of AID's cooperation with Brazil, AID's Northeast program, in general, was not successful. Whereas AID support for training and institution-building in Brazil's Central-South and its assistance to higher level planning were doing well, the Northeast program and relations with SUDENE remained difficult and problematic (see AID 1985 and Rowett 1972). AID undertook a major effort to improve living standards in the region through projects in rural education, health centers, water and sewage systems, rural development, and food aid. Not much can be seen from most of these projects. By comparison, the Northeast marketing project did well, and it is today a going concern in all nine Northeast states. Why the difference?

The main reason for this project's more successful implementation than that of other AID-supported projects in the region was its distance from its targeted beneficiaries, even though focused on a target area of the Northeast. The project did not deal directly with producers or consumers. It focused primarily on the transfer of marketing technologies, specifically the creation of an efficient environment, mainly physical space, for wholesalers. It was, therefore, a different and, in retrospect, much easier project to implement than were the projects for land reform, rural development, and basic needs. In consequence, however, the impact on its ultimate beneficiaries--producers and consumers--remained limited.

To illustrate this point, contrast this project--one of heavy infrastructure investment, whose recipients were to be a small group of wholesalers--with a church parish project dealing directly with the community and targeted beneficiaries. The former tends to be an easier project to implement, both because the technocracy is more familiar with such projects and because, in general, it deals with fewer constraints than would projects closer to the ultimate beneficiaries.

The experience of the Northeast Brazil Agricultural Marketing project reinforces the finding from the impact evaluation of the Korean Agricultural Services project that structural changes in ownership of and access to land are important prerequisites for market-oriented projects if they are to reach their targeted beneficiaries. The evaluation concluded that "Some lessons emerging from the Korean experience include the importance of land reform as the bedrock of agricultural development" (Steinberg et al. 1984, vii). In the Northeast Brazil experience, these structural changes did not occur. The Northeast's concentration of land ownership amidst general landlessness largely explains the limited impact of the project under review.

Limited in relation to other forces shaping change in the Northeast and Brazil and not addressing the structural constraints of the region, this project could not have been expected to significantly influence the complex and changing environment in which it operated. Not only was the project limited in relation to the broader forces shaping the Northeast, but it was also limited in terms of public investment in the region. The project's US\$40 million budget compares unfavorably with the US\$1.7 billion public expenditure budgeted for special rural programs in the Northeast from 1975 to 1981. Many of these area-specific projects received financing and project preparation support from the World Bank and the Inter-American Development Bank. The region's small farmers were the target beneficiaries of these projects. The project components included rural credit, rural extension and research support, and rural physical infrastructure, among others. More recent projects have begun to address the land tenure issue. In 1981, as the region entered its third year of drought, additional Government of Brazil funding equivalent to US\$1.1 billion was pledged (World Bank 1983) to these projects. Thus, although from AID's viewpoint this was a major project, in terms of the total resources committed to Northeast agriculture, the project's US\$15 million AID loan was a small investment. The US\$1.1 million for technical assistance and training proved effective, but by comparison with other efforts, it too was a very small amount.<sup>6</sup>

However, the project was consistent with the economic and market changes already underway. Changes of income and expectations prompted by urban life styles, apartment living, and two-member working families combined to bring about such changes as the growth of supermarkets and the need for volume wholesale purchasing. The project was cognizant of these changes, especially the importance of the supermarket as retailer. (The Recife area's first major supermarket was established in 1965 and was soon followed by others.) Thus, the project rode in on a wave of change and contributed to the consolidation of this change.

The project responded to a felt need and had a high national priority, which translated into adequate financing over the years of its implementation. The National Marketing Program was estimated at US\$100 million; US\$40 million was allocated to the North and Northeast, of which AID contributed US\$15 million and Brazil US\$26 million. Thus political priority translated into financial support and continuity of effort. So the project did not experience the problems of lack of counterpart funds and changing priorities. It was designed in continuous contact with

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<sup>6</sup>For example, the first World Bank-financed project for Brazilian Agricultural Research in the mid-1970s included US\$12 million for training alone. These figures are given in order to contrast the relative importance of the AID project in the Brazilian context.

counterparts from the Government of Brazil. It drew heavily on the in-depth SUDENE-Michigan State University study of Northeast marketing and introduced systematic monitoring and reporting on project implementation. Although difficulties were encountered in the technical assistance support (e.g., personality problems, lack of counterparts), these problems were no more serious than those normally encountered in such efforts. Construction was on time and implementation targets were met.

### 3.2 Income Levels, Income Distribution, and the Demand for Food

During the period of the Northeast Brazil Agricultural Marketing project, income levels grew rapidly. The gross domestic product of Northeast Brazil grew at an average annual rate of nearly 10 percent in the 1970s, nearly double the rate of earlier periods (Table 1). But, it was the distribution of income that determined who benefited from the project.

A study by SUDENE and the Federal University of Pernambuco revealed the level and distribution of household income in the greater Recife area for 1973 (Table 17). About 28 percent of the households earned less than twice the minimum monthly wage, which was inadequate purchasing power to ensure minimum nutritional levels. The 1973 findings confirmed that many people lived in poverty in the Recife area, as throughout the Northeast region. It is also evident from Table 17 that a significant number of households enjoyed relatively high incomes.

Although the rapid economic growth of the 1970s increased the size of the economic pie and the effective demand for food products, the distribution of income in the region did not improve. Estimates of the distribution of income in 1970 and 1980 for the Northeast show an increase in the Gini ratio from 0.581 in 1970 to 0.635 in 1980 (Hoffmann and Kageyama 1985). The Northeast region's Gini ratio for 1980 is higher than that for any other region of Brazil.

The SUDENE and Federal University of Pernambuco study also examined annual per capita consumption of 17 fruits and vegetables by household income group for the Greater Recife area in 1973 (Table 18). Consumption of some fruits and vegetables (e.g., bananas, oranges, chuchu, okra) is significant across all income groups and increases with household income. Consumption of some fruits and vegetables (e.g., avocados, lemons, passion fruit, English potatoes, and tomatoes) increases very rapidly as income increases. These consumption patterns indicate that as economies grow and per capita incomes increase, fruits and vegetables become an increasingly important part of the diet. Such patterns will result in improved nutrition and diet among consumers who have the higher incomes. This is what the

Table 17. Distribution of Monthly Household Income by Income Group in Greater Recife, Brazil, 1973.

Income Group <sup>a</sup>	Monthly Average Household Income (Cr\$)	Households		Average Number of Person, per Household
		No.	%	
0-1	161	151	8.1	4.1
1-2	351	365	19.7	5.5
2-3	589	308	16.6	5.6
3-4	822	220	11.9	6.2
4-5	1,070	164	8.8	6.3
5-6	1,283	96	5.1	6.5
6-7	1,535	92	5.0	6.5
7-9	1,897	114	6.1	6.0
9-15	2,776	165	8.9	6.3
15 or more	6,129	171	9.2	6.4
Undeclared	--	9	0.5	5.8
Average/Total	1,443	1,855	100	5.8

<sup>a</sup>Income groups are measured in units of the minimum monthly wage, which was Cr\$240.00 at the time of the study.

Source: SUDENE and Federal University of Pernambuco (1975).

Table 18. Annual Per Capita Consumption of Selected Fruits and Vegetables  
by Income Group in Greater Recife, Brazil, 1973

Product	Unit	Income Group (a)										Total
		0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-9	9-15	15 or more	
Avocado	each	1.1	3.7	5.1	6.0	5.6	10.1	7.8	7.8	8.4	7.7	6.0
Pineapple	each	4.0	4.8	8.5	5.0	5.6	6.1	7.0	7.1	9.0	10.2	6.7
Banana	each	137.3	203.8	263.2	278.5	324.1	342.1	332.6	377.8	395.8	385.7	293.7
Coconut	each	7.8	9.2	9.7	9.0	8.8	11.4	9.0	9.4	10.4	10.1	9.5
Oranges	each	40.5	63.3	88.1	108.6	117.7	150.9	174.9	180.3	255.2	345.4	142.6
Lemons	each	8.4	14.8	23.7	37.3	37.3	49.0	63.4	53.7	74.6	118.6	44.3
Mango	each	11.4	26.1	27.4	23.6	23.9	37.3	25.7	29.8	24.0	22.3	25.2
Passion Fruit	each	1.7	4.9	11.5	8.2	10.6	19.7	20.6	18.9	23.9	37.7	14.5
English Potatoes	kg	1.1	2.6	4.1	4.9	6.1	6.3	7.2	9.7	12.1	17.8	6.8
Sweet Potatoes	kg	9.8	10.4	10.5	8.4	7.8	7.9	7.3	6.3	6.4	5.6	8.4
Garlic	head	9.4	8.6	11.9	10.3	12.4	13.8	13.9	15.1	14.6	19.2	12.4
Small Onions	bunch	6.5	7.2	7.4	6.7	6.0	6.7	7.6	6.2	7.3	7.9	7.1
Chuchu	each	22.1	24.9	31.7	33.6	37.3	28.0	31.8	43.9	41.4	48.3	33.8
Coriander Seed	bunch	10.5	10.2	10.8	9.0	9.7	11.1	9.6	8.7	10.5	9.0	9.9
Green Pepper	each	12.1	18.8	23.8	25.2	26.4	24.6	26.2	24.6	23.5	26.7	23.1
Okra	each	36.5	43.8	52.2	47.7	52.1	40.4	52.7	53.9	45.2	58.9	48.6
Tomato	kg	4.5	5.8	7.4	8.0	9.0	9.1	9.9	11.2	11.9	14.4	8.8

a

Income groups are measured in units of the minimum monthly wage, which was Cr\$240.00 at the time of the study.

Source: SUDENE and Federal University of Pernambuco (1975).

evaluation team observed in the Northeast region with the expanded volume of these products handled by the Ceasas.

The income elasticity of demand estimates for the Recife study for selected products are reported in Table 19. The estimates for the fruit and vegetable products are positive and generally quite high except for sweet potatoes and manioc flour. The consumption of fruits and vegetables increased substantially as total household incomes increased during the economic boom of the 1970s. But the poor spent less on fruits and vegetables than those with higher incomes, and the poor spent a larger proportion of their income on basic foods such as beans, manioc, and bread.

### 3.3 Price Information: Successful Transfer but Limited Impact

The project's introduction of a price information system illustrates how successful implementation did not bring about the expected benefits. AID technical assistance was effective in the design and implementation of this system, which was an important component of the project. However, regional conditions prevented the price information system from being used as planned. The price information system was to have been accompanied by produce classification and grading, because only with such product standardization could information on prices among distant markets be useful. Produce classification and grading, however, did not take effect in the Northeast markets, which were not ready for this technology.

However, price information generated through the Ceasas has served an unplanned need. National authorities rely on it to determine price and wage policies, an important role in an economy in which inflation is above 200 percent per year. This information is also beginning to reach some farmers, and cases are cited of decisions being made to sell or delay selling on the basis of price information received by radio. Nonetheless, consumer demand and willingness to pay for the extra cost of standardization and packaging were not yet in place. On the producers' side, dispersion, low productivity, low volumes and incomes, and seasonal production variations made introduction of the price information system premature.

### 3.4 Market Improvements, Favorable Impact on Production, and Considerations of Regional Comparative Advantage

The more efficient nationally integrated marketing system introduced by the project contributed to significant growth in production and efficiency by bringing comparative advantage to bear on production. The project's support to the marketing

Table 19. Income Elasticities of Demand for Selected Products in Recife, Brazil, 1973

Product	Income Elasticity	Product	Income Elasticity
Banana	0.32	English Potatoes	0.84
Orange	0.68	Sweet Potatoes	- 0.22
Pineapple	0.27	Boneless Beef	1.04
Lemon	0.82	Pork	0.58
Avocado	0.53	Shrimp	1.34
Passion Fruit	0.90	Eggs	0.55
Lime	6.74	Rice	0.26
Onions	0.45	Manioc Flour	- 0.39
Garlic	0.24	Wheat Flour	0.71
Lettuce	0.25	Milk	0.82
Green Corn	0.57	Cheese	1.65
Carrots	1.02	Sugar	0.18
Tomatoes	0.36	Coffee	0.18
Cabbage	0.68		

Source: SUDENE and Federal University of Pernambuco (1975).

system coincided with a significant increase in the production of the major crops handled by the project's marketing centers. As Table 20 indicates, increases in the production of tomatoes, oranges, bananas, and onions are most impressive.

The underdeveloped Northeast region is dominated by the developed Central-South region. Capital, technology, organization, human resources, land quality, and most of the factors contributing to growth and development are relatively more abundant in the South than in the Northeast. As a consequence, per capita income in the Northeast is one-third that of the rest of Brazil (see Table 10). Before the 1960s, imperfect markets, transportation bottlenecks, and localized information tended to isolate the Northeast's food market from that of the Central-South.

The Ceasa system has contributed to the improvement of the regional and national flow of food products and has helped the Northeast to capture a higher value share of Central-South products (Tables 21 and 22).

The volume share supplied by the South-Central State of Sao Paulo to the Ceasas appears to have grown as the system became operational, stabilized, and then declined (Table 23), perhaps as transportation costs increased. An indication of this is that the share of product value imported by Northeast Ceasas remained high (Table 22). After the initial adjustments, the percentage shares remained rather stable, whereas the absolute volume of flow increased considerably in all markets. Market efficiency, made possible by the expanding highway network in this region and throughout Brazil, has also been well served by the Ceasa system. Competition and price stability brought about not only the improved ability to import within states and among regions, but better quality and consumer satisfaction.

However, the evaluation team could not ascertain whether the net gains from these interregional flows outweighed the adverse effects on specific groups. Market allocative efficiency is neutral as to who benefits, which is largely determined by who owns the resources, which, in this case, were highly concentrated consumer income and land ownership, and the Central-South.

### 3.5 Centralized Planning and Its Consequences

Whereas the structural context explains the limited impact of the project on its ultimate beneficiaries (consumers and producers) the centralization of power and decision-making explains the project's rapid implementation, as well as many of its shortcomings. Intended beneficiaries and other interested parties were not involved in the design and implementation of the

Table 20. Production of Selected Fruits and Vegetables in the Northeastern States of Bahia, Ceara, Pernambuco, and Sergipe

State	Vegetables (MT)			Fruits (1,000 units)				
	Tomatoes	Potato	Onion	Papaya	Pineapple	Banana	Oranges	Mango
<b>Bahia</b>								
1970	16,719	18,401	5,686	2,893	20,622	21,331	463,491	62,315
1975	21,635	13,197	10,053	2,204	17,419	30,399	527,800	66,779
1980	70,644	70,430	40,140	15,481	36,250	62,995	846,612	130,871
1983	100,822	58,022	52,890	18,804	42,934	75,793	883,040	121,318
<b>Ceara</b>								
1970	4,382	14,177	131	1,517	957	15,105	51,232	97,403
1975	12,259	7,135	105	1,410	2,405	21,914	48,248	106,212
1980	25,000	11,615	53	1,679	3,400	45,750	112,500	364,868
1983	32,580	6,971	5	562	217	27,558	91,030	252,360
<b>Pernambuco</b>								
1970	57,473	35,630	21,477	1,867	23,536	14,628	178,522	101,832
1975	63,753	28,279	19,215	2,893	7,647	21,256	157,780	136,881
1980	122,560	42,897	87,028	2,990	17,880	34,264	326,352	144,363
1983	99,120	29,823	92,714	4,614	13,934	28,232	219,670	90,674
<b>Sergipe</b>								
1970	1,001	3,676	409	--	587	1,419	208,829	50,476
1975	1,688	3,459	227	--	117	1,078	330,400	42,986
1980	3,168	11,623	101	1,100	2,730	2,461	2,396,029	25,415
1983	1,881	11,876	80	3,067	3,492	2,181	2,137,608	34,238

Source: SUDENE.

Table 21. Volume and Value of Tomatoes Marketed and Imported From Other States Through Ceasa/Ceara, 1976, 1980, and 1984

Tomatoes Marketed/ Imported	1976	1980	1984
Total Volume in Tons	8,047	13,213.4	13,602.6
Imported Volume in Tons	116	156.6	1,704.1
Imports Percent Share of Total Volume	1.4	1.2	12.5
Total Value in Cr\$000	17,426.0	190,791.9	5,196,312.9
Value Imports in Cr\$000	300.6	2,687.8	865,083.4
Importer's Percent Share of Total Value	1.7	1.4	16.3

Source: Ceasa/Ceara.

Table 22. State Participation in Value of Goods  
Marketed Through Ceasa/Pernambuco, 1969-1979  
(as percentage)

State	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
Pernambuco	69.3	62.1	57.6	56.5	51.5	48.5	48.9	50.7	55.7	57.0	61.0
Sao Paulo	2.9	8.9	9.3	6.8	9.7	7.5	15.1	12.0	12.3	10.7	9.2
Paraiba	9.2	10.1	10.1	12.0	9.6	6.1	9.8	10.6	8.8	8.8	7.7
Sergipe	10.2	4.1	10.0	10.3	10.0	20.9	9.2	11.3	10.2	10.0	10.3
Ceara	0.4	0.2	3.5	3.3	4.7	4.0	5.3	4.7	2.8	3.0	1.6
Bahia	0.5	1.1	1.4	1.3	3.4	2.1	3.4	2.7	2.5	3.1	2.2
Rio Grande do Sul	0.1	0.2	0.4	0.6	0.8	2.0	3.3	1.4	1.3	1.6	2.2
Maranhao	-	1.8	1.9	1.6	2.1	2.5	1.3	2.3	1.2	0.9	0.9
Alagoas	7.6	9.2	4.0	6.2	4.0	2.5	1.2	1.5	1.8	2.1	1.7
Rio Grande do Norte	0.6	1.2	0.8	0.6	2.5	2.9	1.0	1.8	1.2	1.2	1.0
Piaui	-	0.3	0.8	0.6	1.0	0.5	0.6	0.2	0.5	0.2	0.1
Minas Gerais	0.1	0.3	0.0	0.2	0.1	0.5	0.4	0.1	0.2	0.8	0.1
Parana	0.0	-	0.0	0.0	0.2	0.0	0.4	0.5	0.1	0.6	0.5
Rio de Janeiro	0.0	0.0	0.2	0.0	0.4	0.0	0.1	0.2	0.0	0.0	0.0
Others	-	-	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.6
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Ceasa/Pernambuco.

Table 23.<sup>a</sup> State Participation in Volume of Produce  
Marketed Through Ceasa/Pernambuco, 1969-1979  
(percentages)

States	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979
Pernambuco	69.2	62.1	57.2	56.5	51.9	48.5	42.0	44.9	47.8	46.8	49.5
Sergipe	10.2	4.1	10.0	10.0	10.0	21.0	17.6	21.3	22.2	21.4	25.2
Sao Paulo	2.0	8.9	9.3	6.8	9.6	7.5	13.4	6.5	6.4	7.1	5.8
Paraiba	9.1	10.1	10.1	11.9	9.6	6.1	8.9	11.3	8.9	9.5	7.9
Ceara	0.4	0.2	3.4	3.3	4.7	4.0	6.7	5.3	3.0	3.2	1.5
Bahia	0.5	1.1	1.4	1.3	3.3	2.1	4.1	2.6	3.4	4.0	2.6
Rio Grande do Sul	0.1	0.8	0.4	0.6	0.8	1.9	1.7	0.8	0.7	0.4	0.7
Alagoas	7.7	9.2	4.0	6.2	4.0	2.5	1.5	2.4	2.2	2.5	2.2
Maranhao	-	1.8	1.9	1.6	2.0	2.5	1.5	2.1	1.6	1.4	1.2
Rio Grande do Norte	0.6	1.1	0.8	0.6	2.4	2.9	1.2	2.0	1.7	1.5	0.8
Piaui	-	0.3	0.8	0.6	1.0	0.5	0.8	0.2	0.6	0.3	0.2
Minas Gerais	0.1	0.3	0.1	0.2	0.1	0.5	0.3	0.1	0.1	1.0	1.4
Parana	0.2	-	0.0	0.0	0.2	0.0	0.2	0.3	0.9	0.9	0.8
Rio de Janeiro	0.0	0.0	0.2	0.1	0.4	0.0	0.1	0.2	0.0	0.0	0.0
Others	-	-	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Ceasa/Pernambuco.

project. Design and implementation were top-down and uniform across the country. This nonparticipatory approach might have accelerated project implementation, but it did so at the expense of quality and adaptability to local conditions.

The most visible consequences of centralized planning are observed in the physical and organizational plant--a major element of the project cost. In the Ceasa of Ceara, for example, the design and materials used were unsuited to local conditions. Windows were constructed in the wrong places to take advantage of the constant southwest trade winds for ventilation and cooling, and the structure was designed with central air-conditioning. Lighting was excessive and the heavy iron structure corroded quickly in the marine conditions of Fortaleza. The facility was never put into operation because it was subsequently judged expensive and unnecessary.

Centralization and pressure from central authorities to complete the project quickly, together with an emphasis on physical structure, preempted flexibility and adaptation at the implementation stage. In the early years of the Pernambuco Ceasa, before central intervention, organization of the market system was proceeding in incremental stages under the aegis of SUDENE, a regional institution. This allowed greater opportunities for adaptation in both the physical and organizational plan. Subsequent central intervention introduced not only haste but uniformity at the expense of local adaptability. Centralized political power, with its close ties to central technocracies such as engineering and construction firms and its dependence on general economic studies and uniform financial requirements considerably reduced the options for adaptation to local needs and requirements. By 1968, when the project was identified as a priority of the national development plan, conditions in Brazil and the Northeast region had changed substantially from what they has been when the SUDENE project and its concept were developed.

The authoritarian regime of the late 1960s and 1970s interpreted national integration to imply an emphasis on large infrastructure works such as highways, hydroelectric projects, telecommunications, and the encouragement of state enterprises (Villela and Baer 1980; Villela 1984<sup>7</sup>). The policies and projects were to be designed centrally. In this period, the Brazilian Government was characterized by its massive investments. The new policy climate meant that the SUDENE initiative in food marketing--a regional project--was taken over by the national program. This preemption of regional projects by

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<sup>7</sup>These publications give a rare up-to-date and thorough analysis of the issues and experience of public policy with the private and state sectors.

national centralized programs also occurred with other regional initiatives such as the program for water and sewer systems.

The desire for centralized uniformity and the desire for rapid implementation led to an overloading of Ceasa management and institutional support at the higher levels. Plans for the Ceasa of Aracaju, Alagoas, for instance, which moves one-fourth the food quantity of the Ceasa of Pernambuco in Recife, called for the same number of directors, advisers, and bureaucratic overhead as the Ceasa of Pernambuco.

The Ceasa program's difficulty bringing benefits to producers as noted earlier, was a consequence of the Northeast's conditions of land tenure, cultural and economic characteristics, recurrent drought, and so forth. No partial, indirect intervention like this project could have reached its final beneficiaries, even though a main objective of the project was to benefit the farmers. Some of the project components designed specifically to bring the project closer to the farmers, such as the producer and assembly market centers, were the least successful elements of the project. Although in the rural conditions prevailing in the Northeast, such centers would not have been sufficient to make a difference; the producer market centers also suffered greatly as a result of the project's top-down, nonparticipatory approach. These centers were in general poorly located and overbuilt. Simple gathering points supplied with tents, cement blocks, and so forth would have been sufficient, and these structures could easily have been moved, as necessary. Several of the large structures built instead are now closed.

### 3.6 Representative Government and the Project's Future

The Brazilian evolution toward a representative political system and the development of the institutions needed for a stable foundation for Brazilian democracy permit some preliminary lessons to be drawn from the Ceasa experience. Some new tendencies in this changing environment are also becoming apparent. Authoritative centralized project design and implementation is being rapidly replaced by a more open negotiated process in which the national congress, state governments, and political parties actively participate. This shift of power is bringing badly needed policy and project accountability and introducing policy realism in regard to project size, implementation, and cost.

What is also observed, with significant implications for the type of participation and accountability needed for projects such as this one, is the abuse by narrow local political interests of this opening participatory process. In some Ceasas, hiring practices that satisfy narrow electoral political

interests are seriously threatening the functioning of the system and overburdening already deficient budgets. Whereas the centralized authoritarian regime rewarded the central bureaucracy in Brasilia, the new democratic regime tends to reward the local political interests at the expense of efficient functioning of the Ceasas and at a high cost.

Various interested parties should have a voice in Ceasa and system management. Beneficiary participation should be the norm, with user, wholesaler, farmer, retailer, and consumer presence on the Ceasa board, together with representation of the local, municipal, state, and Federal Government, preferably through SUDENE.

The lesson from the early signs of the effects of political change on the Ceasas' futures reinforces the study team's previous conclusion: the Ceasa system is as good as the broader context allows it to be, with changes possible only at the margin (limited policy-option space). The present political opening offers opportunities for more genuine participation and accountability of the system to users and beneficiaries. It is hoped such participation and accountability will allow the Ceasas to evolve toward a system that operates with administrative and financial efficiency and serves a broader base of beneficiaries.

In response to changing political practices, market demand, and production conditions, the Ceasa marketing system must address two major trends: The growth of supermarkets and Government commitment to better nutrition and access to food for the urban and rural poor. The increasing importance of supermarkets is making possible vertical integration from production to retailing. This trend will continue, especially if the contemplated major irrigation projects in the Northeast region favor large company-owned farms in the future, in which case supermarket chains are likely to invest heavily in them. The Ceasas will lose ground unless they increase their involvement with producers and supermarkets. Ceasas have not been adept at serving low-income groups. Major adjustments to the new demands to serve the mass of urban poor will inevitably bring corresponding changes to the marketing system. Lower income groups will continue to be served by feiras and by the retailing innovations of private supermarkets and public institutions through the Brazilian Food Company (COBAL), such as sacoloes (retail markets that sell fruit and vegetable baskets by weight rather than by the price of individual items) and their variations (see Appendix B).

The financially and managerially efficient evolution of the Ceasa system is all the more necessary as the Government food policy and distribution objectives are committed to better nutrition and access to food by the broad masses of the urban and rural poor--groups the present Ceasa system has been unable to reach.

### 3.7 The Need for Ongoing Analysis and Evaluation

Ongoing, in-depth evaluation of the project by consultants outside the COBAL/Ceasa structure would have helped to identify shortcomings and to suggest appropriate changes during implementation. Both project managers and AID provided regular reporting and supervision of project execution, disbursements, and cost. What was absent, however, was ongoing, systematic evaluation that focused more on impacts through in-depth analysis of causes. Such ongoing evaluation, by relying on direct information from the ultimate targets of the project and from the increasingly knowledgeable Ceasa managers and front-line project implementors, could have produced continuous feedback on what was happening. Periodic reviews would have alerted the system to some of its shortcomings. Such support could not have overcome the weight of the environmental conditions within which the project operated and which so decisively conditioned its outcome. It could, however, have helped to ensure that these conditions were considered more explicitly and thus could have provided a basis for project reformulation and evolution.

## 4. CONCLUSIONS AND LESSONS LEARNED

1. The foremost lesson from the Northeast Brazil Agricultural Marketing project is the importance of the broader economic, social, and political environment that surrounded the project. In this case, the levels and distribution of income determined consumer benefits, while land tenure and the distribution of land ownership prevented producers from sharing in project benefits.

2. The project was well implemented. This is explained by the following:

- The high priority given to the project by Central Government authorities and their continuity of effort over the decade of its implementation
- The good timing of the project in its focus on products increasingly in demand by a rapidly growing urban middle class and its coinciding with the emergence of the supermarket retailers
- The project's relative simplicity and emphasis on physical infrastructure

Despite its successful implementation, the project did not address key environmental factors such as land tenure and local

marketing structure. Environmental factors need to become explicit, integral concerns in project design and implementation.

Such integrated projects are difficult to implement, however, and donor agencies tend to favor simpler projects. Recent experience in Northeast Brazil with integrated rural development projects confirms this finding.

3. Greater market efficiency in terms of greater production of fruit and vegetables, regional specialization of production, and more voluminous exchange among regions was well served by the project.

4. Excessive centralization in the design and implementation of the project, which reflected the authoritarian, technocratic bias of the political and economic planning of Brazil at the time, reduced flexibility and adaptability of the project to local needs and changing conditions. Excessive centralization and Government intervention contributed to overstaffing and to large deficits.

5. Although the project was conceived as a public sector project to serve private agents such as consumers, producers, and intermediaries, it tended to favor relatively few wholesalers.

6. Some aspects of the project such as the wholesale centers, sanitation improvements, and market management worked well in diverse Brazilian settings and could presumably be transferable to other countries.

7. Project-related training and technical assistance for management and institution-building contributed significantly to the workings of the project. Although physical infrastructure concerns dominated the project, the contribution of technical assistance and training to the management and operation of the agricultural marketing system were significant and lasting.

8. The most significant support given by AID to this project was in the following areas:

- Contributions to the design of the project, especially what the design drew from the SUDENE/Michigan State University marketing study
- Marketing and management training
- Continuity of effort in accordance with what was planned and agreed on

## APPENDIX A

### PROJECT SUMMARY<sup>1</sup>

#### PART ONE: SUMMARY AND RECOMMENDATIONS

##### 1. Borrower

The Government of Brazil (GOB) for the technical assistance and the National Bank for Economic Development (BNDE), an autonomous dependency of the Ministry of Planning, for the construction programs. The loan to the BNDE will be guaranteed by the GOB.

##### 2. Purpose

The purpose of the loan is to provide financial and technical assistance to the GOB in creating an appropriately structured, viable, and efficiently managed and operated agricultural marketing system to improve the marketing and distribution of food in the North and Northeast. The facilities to be financed are large- and medium-size wholesale food markets and rural food collection centers, in furtherance of national and regional agricultural objectives and policies. Specific technical assistance will be provided for guidance and training in the creation, organization, management, and operation of these entities.

##### 3. Description of the Loan and the Program and Executing Agencies

The AID loan will assist in financing a portion (i.e., the North and Northeast) of the GOB's national program of construction, equipping, and operation of wholesale markets in the urban centers and rural assembly markets at major interior collection points. Inasmuch as part of the operating system of the markets includes market news service and grading and standards for produce, AID will also provide financing for technical assistance, training, and equipment for these activities. In addition, technical expertise will be provided for wholesale market operation, retail food marketing, and rural marketing organizations.

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<sup>1</sup>From the Proposal and Recommendations for the Review of the AID Development Loan Committee, 1971.

The 3-year national investment program will cost approximately \$100 million with some \$70 million to be provided through the BNDE, from its own and external sources, and \$30 million from state and municipal governments. Thus far some \$32 million worth of projects have been identified in the North and Northeast and feasibility studies for these have either been completed or are presently being carried out.

AID will not specify the projects to which its resources will be applied but, rather, leave this decision to the Executive Group for the Modernization of Food Supply (GEMAB) and the BNDE, based on their review and approval of loan applications. USAID will, however, review the financial, technical, and economic criteria which the BNDE and GEMAB will use in their analyses, prior to making any disbursement under the loan. This paper, therefore, evaluates the overall objectives of the program and assesses the capabilities of the executing agencies to evaluate and implement the subprojects.

Executing Agencies. The principal executing agencies will be the BNDE, GEMAB, and COBAL (Brazilian Food Supply Company). Supporting roles will be played by SUDAM and SUDENE, the Development Superintendencies for the North and Northeast. While these organizations will be analyzed in detail in part two, Section II, a brief description of their roles follows.

The BNDE will serve as the Borrower, executing, financial, and monitoring agent of the proposed construction program and will provide long-term financing for the construction and equipping of the markets.

The Ministry of Agriculture acting through GEMAB, which was created by PRESIDENTIAL Decree on November 26, 1969 to promote and implement the recommendations for the Food Distribution Section of the GOB's Strategic Development Program, will be the agent of the GOB responsible for overall planning and coordination of the program and execute the \$1 million technical assistance program. GEMAB is presided over by the Minister of Agriculture and includes representatives from four Ministries and from the National Confederation of Commerce.

COBAL, a dependency of the Ministry of Agriculture, was established in 1962 and given a broad mandate in executing GOB plans in food supply and regulation. Under the proposed program COBAL will participate in the operation of each of the markets through its ownership of up to 30 percent of the shares.

SUDENE and SUDAM would assist the state governments under their jurisdiction to promote plans for wholesale and assembly markets in support of the national program.

Under these arrangements, established for the administration of the program, GEMAB, assisted by COBAL and the BNDE will jointly, under the direction of GEMAB, approve projects for economic, financial, and technical feasibility; (1) the BNDE will undertake the responsibility for monitoring the execution of the construction of the markets, and (2) GEMAB and COBAL will (a) undertake the responsibility of supervising the organization of the mixed economy--companies which will manage the market, establish operating regulations and procedures for the operation of the markets, and provide necessary technical assistance and training to the mixed economy companies and (b) carry out the technical assistance programs financed under this loan.

Insofar as the institutions are concerned, the USAID is of the opinion that they have the capacity to execute the program. With respect to the BNDE, this finding is based on the BNDE's generally good to excellent record in the execution of a large industrial intermediate credit program utilizing AID program loan counterpart (in excess of \$100 million), our review of the BNDE's procedures, as outlined in this paper, and discussions with the BNDE staff responsible for the program. With respect to GEMAB and COBAL, our opinion is based for the most part on the qualifications of the executives and staff which have been assigned to this program, and on the high priority in terms of resources and staff which the Government has assigned to this programs.

With respect to staff, we have reviewed the curricula vitae of the key staff people, and reviewed procedures and regulations thus far developed by them for the execution of the program. The staff is well qualified and several members have had extensive experience with the execution of the Sao Paulo market and in other marketing programs. Our opinion is that this staff in conjunction with the staff of the BNDE has the capacity to satisfactorily execute this program.

We have concluded that the institutional arrangements for the implementation of this program are satisfactory.

4. Loan

a. Amount and Terms

- (1) Up to \$14 million to the BNDE for a sublending program of wholesale market construction, on following terms, a 20-year amortization period including a grace period of 5 years with an interest rate of 2 percent a year during the grace period and 3 percent a year thereafter. The GOB will guarantee the loan.

It is anticipated that subloans will be made by the BNDE on its present terms for infrastructure investments of not less than 4 percent interest plus monetary

correction and up to 20-year principal repayment. Any change in interest rate or terms by BNDE to Borrower will be approved by AID.

- (2) Up to \$1 million to the GOB for a subloan or subgrant to the Ministry of Agriculture, acting through GEMAB, for technical assistance on the following terms, a 40-year amortization period including a grace period of 10 years with an interest rate of 2 percent a year during the grace period, with 3 percent a year thereafter.

- b. Local Cost Financing. Foreign exchange procurement of technical assistance training and related equipment will be from eligible source countries. GEMAB has indicated the United States is their preference for such foreign exchange procurement.

## 5. Justification

Except for isolated areas, such as Sao Paulo, the existing food distribution system in Brazil is largely antiquated and inefficient. Most farm production in the North and Northeast is carried to collection centers manually or on pack mules and sold to intermediaries who generally sell to truckers for shipment to urban centers. Practically all of the perishable produce entering the urban centers pass through old public wholesale market facilities, where spoilage losses are high, vehicular and human traffic is congested, operating scale is small, and health conditions are sub-standard. At the retail level, while super-market chains are expanding rapidly, most fresh produce is sold through public fairs where scores of small operators make sales from individual stalls.

While modernization is needed at all levels of the distribution channel, the GOB is convinced (and the USAID concurs) that the most urgent bottleneck is poor wholesale facilities for perishable products. For that reason the GOB is responding to requests of many state and municipal governments to provide assistance for the construction of modern facilities. This is not to say that other marketing problems will not also be attacked, only that initial concentration will be made on improving marketing facilities.

## 6. Background

Interest in modernizing the food distribution system only became evident some 10 years ago when SUDENE and the Sao Paulo state government commissioned feasibility studies for modern

wholesale market facilities for Recife and Sao Paulo, respectively. Both projects were delayed, but over a period of several years, problems were resolved and the Sao Paulo market (Ceasa) was completed in 1966 and the Recife market (CARE) opened for business in 1968 with 30 percent of its planned facilities completed.

USAID's role in food marketing has been limited to technical assistance and PL 480 donations. We grant financed USDA-PASA specialists in wholesale facilities (2 years) and in market news service (4 years). In addition, Michigan State University was contracted to participate with SUDENE in a study of food marketing in the Recife foodshed. The results of that study formed the basis of our initial review for a possible marketing loan.

After many years of discussing and studying the marketing problems and possible approaches, the GOB has taken action in the last 12 months to implement, on a priority basis, the recommendations of the food distribution section of its Strategic Development Program (1968-1970). In a recent (September 1970) announcement of Goals and Objectives for 1970-1973 (Metas e Bases), President Medici underlined the GOB marketing program as one of the 10 priority programs for agriculture. To avoid delays previously encountered in implementing the Ceasa and CARE markets, the GOB has decided to centralize the national plan and offer special financial and technical assistance to state and municipal authorities in the construction of modern wholesale markets with special emphasis on perishable produce.

## 7. Financial Plan

The investment cost of the first phase of the National Program is estimated at approximately \$100 million, with some 40 percent of this--\$40 million--to be directed to the North and Northeast regions of the country. Of the \$100 million National Program, \$15 million would be in the form of a loan from AID, and the balance would be from internal sources composed of \$30 million from the state and municipal governments and \$55 million from the GOB. The latter amount includes approximately \$10 million from PL 480 counterpart. Except for a portion of the technical assistance, training, and communications equipment, the entire program consists of local currency costs.

The financial plan, not including the \$1 million for technical assistance, training and equipment, for the AID-assisted areas, the North and Northeast, is as follows:

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<u>Funding Source</u>	<u>Amount (millions US\$)</u>
BNDE	14.0
AID Loan	14.0
State and Municipal	<u>12.0</u>
	40.0

BNDE will be providing 70 percent of the financing for each market. However, up to 30 percent would be loaned to COBAL, which will purchase shares in each of the markets, and, thus, complement the 30 percent equity contribution of the state or municipality. (The loan to COBAL would be repaid pursuant to yearly contributions from the budget of the Ministry of Agriculture). The balance of the BNDE contribution will be a direct loan to the mixed company established to own and operate the market. Thus, the financial plan for each of the markets will include 60 percent equity (30 percent COBAL, 30 percent state and/or municipality) and 40 percent debt.

#### 8. Other Sources of Funds

- a. In its letter to AID of December 16, 1969, the IBRD stated that it was not interested in considering financing for this program.
- b. In its letter to AID of March 24, 1970 the IDB stated that the bank was not considering any loan in the Northeast agricultural marketing sector.
- c. In view of the local cost nature of the program, the EXIM Bank indicated at an EXIM-AID Liaison Group meeting held December 22, 1969 that it was not interested in providing financing.
- d. BNDE (The National Economic Development Bank of Brazil) has all its resources totally committed and could only supply additional funds by diverting them from other high-priority projects.
- e. Private investment sources seek a high commercial rate of return and since these essentially infrastructure projects do not have a high commercial rate of return, it is not possible to obtain from the private sector funds in addition to those indicated herein.

- f. There has been, in recent years, an expansion of available agricultural credit. The possibility of using this as a source of financing for this project was investigated.

This source was discarded because:

- (1) Although agricultural credit availability has expanded, it is not sufficient for all the projects in the agricultural sector needed for Brazil's development.
- (2) Private banks traditionally finance only short-to-medium-term loans to private individuals and firms. A long-term loan of this nature by a private bank to a Government-owned company is not considered a feasible source of financing.

## APPENDIX B

### CHRONOLOGY OF AGRICULTURAL MARKETING AND PROJECT EVENTS

#### 1960-1961

- The Superintendency for Development in the Northeast (SUDENE) together with a French-Brazilian technical team, studied proposals on how to improve the marketing system of food supply to urban areas. This led to identification of the project for the wholesale market for Recife and Salvador, as well as of the rural marketing centers.

#### 1962

- Construction begins on the wholesale center of Recife.
- Incorporation in October by the Government of Brazil of the central wholesale market of Pernambuco, S.A. (CAPESA), with the principal objective to improve, rationalize, and modernize the food supply for the state of Pernambuco.
- The creation of the Companhia Brasileira de Alimentos (COBAL), of the Companhia Brasileira de Armazenamento, (CIBRAZEM) and the Companhia de Financiamento da Producao (CFP) (responsible for minimum price policy).

#### 1963

- Expansion of SUDENE's CAPESA initiative to cover the whole of the Northeast--renamed Centrais de Abastecimento do Nordeste S/A CANESA. The Government of Brazil through SUDENE controlled 99 percent of the shares of the new company. The objective of the new company was to install wholesale centers in the principal urban centers of the region.

#### 1966

- Inauguration of the Ceasa in Sao Paulo, work on which began in 1960.

#### 1966-1967

- In-depth study of food marketing processes in the Recife area under the auspices of SUDENE by Michigan State University, financed by AID

1968

- Inauguration of the Recife Ceasa; 30 percent of the project was completed. The establishment of a national program for the modernization of food supply in the context of the national development plan 1968-1970--Programa Estrategico de Desenvolvimento. The plan identified 15 priority cities, including Salvador, Recife, Fortaleza, Maceio, and Aracaju.

1969

- Establishment at the Federal level of the Executive Group for the Modernization of Food Supply (GEMAB) as the principal executing authority for the national system.

1971

- The negotiation of the AID loan (US\$14 million) and technical cooperation (US\$1 million) as part of the first phase of the national program--estimated at US\$100 million, of which 40 percent was allocated to the North and the Northeast.

1972

- Establishment of the National System of Wholesale Centers, SINAC under GEMAB, with technical and administrative support from COBAL, the Brazilian Food Company.
- Beginning of the operation of the Ceasa-Ceara in Maranguape, near Fortaleza.

1973

- Beginning of the operation of the Ceasa-Bahia in Salvador, Sergipe in Aracaju.

1974

- Beginning of the operation of Ceasa-Paraiba in Joao Pessoa.

1975

- Beginning of the operation of Ceasa-Alagoas in Maceio.

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1976

- Beginning of the operation of Ceasa-Piaui in Teresina and Ceasa-Rio Grande do Norte in Natal.
- Beginning operation of the wholesale market of Campina Grande as part of Ceasa-Paraiba.

1977

- Beginning of the operation of Ceasa-Maranhao in Sao Luis.

1978

- Beginning of the operation of rural assembly markets in Batu rite, Ibiapaba, and Uruburetama in Ceara; in Belem do Sao Francisco; and in Jaguaquara in Bahia.

1979

- Beginning of the operation of the producer market at Campina Grande in Paraiba.

1980<sup>1</sup>

- Beginning of the operation of Hortomercados at Vinhais, Bequimao, and Turu in Maranhao.
- Beginning of the operation of Varejao in Ceasa-Rio Grande do Norte.
- Beginning of the operation of Varejao in Recife.
- Beginning of the operation of the producer market in Santa Maria da Boa Vista, in Pernambuco.

1982

- Beginning of the operation of the producer market of Vicencia, Pernambuco.

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<sup>1</sup>The year of the introduction of the following new elements (equipamentos) in the marketing system: (1) Hortomercados, a type of shopping center (retail outlet) for fruit and vegetables; (2) Varejoes, weekly markets within the confines of the Ceasas where wholesalers sell excess stocks; and (3) Sacolao, retail markets selling baskets of fruit and vegetables by weight, without pricing individual items.

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- Beginning of the operation of the producer market of Medio Mearim, Maranhao.
- Beginning of the operation of Hortomercado of Maiobao, Maranhao.
- Beginning of the operation of Varejao of Pina in Recife, Pernambuco.
- Beginning of the operation of Varejao of Areias in Recife, Pernambuco.
- Beginning of the operation of feira livre in Narandiba, Bahia.
- Beginning of the operation of (provisions shop?) in Bancarios, Paraiba.
- Beginning of the operation of Sacoloes at Santo Amaro, Mustardinha and Alto de Santa Terezinha in Recife, Pernambuco, and central markets in Paraiba and Aracaju, Sergipe.
- Beginning of the operation of Chain Somar of Hortigranjeiros of Sao Luis, Maranhao.

1983

- Producer market of Vicencia closed.
- Beginning of the operation of Hortomercado of Marcos Ferreira, Sergipe.
- Varejao of Pina, Recife, Pernambuco closed.
- Beginning of the operation of Sacolao of Sao Luis, Maranhao.
- Beginning of the operation of Sacoloes of Casa Amarela, Ibura and Pina, in Recife, Pernambuco.

1984

- Varejoes of Campina Grande and Patos in Paraiba closed.
- Sacolao of Sao Luis, Maranhao closed.
- Beginning of the operation of Sacolao of Acude Velho-Campina Grande in Paraiba.

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APPENDIX C

PERSONS INTERVIEWED

Rio de Janeiro

Carlos Manuel Romani  
Economic Consultant  
Rua Vitoria Regia, 756

Annibal Villanova Villela  
Economist  
Annibal Villela Economic Consultants

Sao Paulo

Ruy Miller Paiva  
Agricultural Economist  
Institute of Agricultural Economics  
of State Department of Agriculture

Nataniel dos Anjos  
Economist  
Institute of Agricultural Economics  
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Professor of Agricultural Economics  
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Antonio Rocha Magalhaes  
Associate Superintendent  
Institute of Economic and Social Planning (IPEA)  
Ministry of Planning

Joao Felicio Scardua  
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Brazilian Food Company

Vilson de Luca  
Director of COBAL  
Brazilian Food Company

Howard Lusk  
USAID Representative

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Guilherme Henrique Schuetz  
Manager of Department of Wholesale Markets of COBAL  
Brazilian Food Company

Sylvio Santinoni, Director  
Agricultural Market Information Service  
Ministry of Agriculture

Mauricio Rangel Reis  
Vice President  
Dedini  
Former Chairman of Executive Group for the Modernization  
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Associate Professor of Agricultural Economics  
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Director  
Secretary of Supply and Prices of Secretary of Planning  
Ministry of Planning

Marcelo Monteiro Soares  
General Director  
National Department of Business Registration  
Ministry of Industry and Commerce

Luiz Henrique Ferreira Horta  
Secretary of Coordination  
Ministry of Industry and Commerce

Antonio R. Teixeira Filho  
Director  
Secretary of Food Supply  
Ministry of Agriculture

Fortaleza

Jose Melchior Soares  
Technical and Financial Director  
Ceasa/Ceara

Marcilio Freitas Nunes  
Chief, Technical Division  
Ceasa/Ceara

Joaquim  
Chief Purchaser of Fruit and Vegetables  
Pao de Acugar Supermarkets

Osmundo Reboucas  
Secretary of Planning

Pedro Sisnando Leite  
University of Ceara

Recife

Benjamin Souto Nobrega  
President of Ceasa/Pernambuco  
Wholesale Market of Pernambuco

Luiz Fernando Correia de Araujo  
Coordinator of Projeto Nordeste  
SUDENE

Jose Miaja  
Director of Sertao Project  
Superintendency for Development of the Northeast (SUDENE)

Jorge Fernando de Santana  
Coordinator  
Regional Planning, SUDENE

Herodoto de Sousa Moreira  
Head, Division of Regional Accounts  
SUDENE

Campina Grande

Francisco de Assis Perazzo  
General Director  
Secretariat of Agriculture of Paraiba

Antonic da Silva Sobrinho  
Director-President of Ceasa/Paraiba  
Wholesale Market of Paraiba

Aracaju

Norman Oliveira  
Director-President of Ceasa/Sergipe  
Wholesale Market of Sergipe

Marcal Jose Cavalcanti Silva  
Finance Director of Ceasa/Sergipe  
Wholesale Market of Sergipe

Raelmo de Melo Fontes  
Technical Director  
Rural Assembly Market of Umbauba

Etelio de Carvalho Prado  
Superintendent of SUDAP  
State Agricultural Development Agency

Salvador

Gustavo Adolfo T. Tenorio de Albuquerque  
Technical Director of Ceasa/Bahia  
Wholesale Market of Bahia

Luiz Carlos Batista  
Director of Ceasa/Bahia  
Wholesale Market of Bahia

Carlos Luiz de Miranda  
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Harlan Davis  
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James A. Fleming  
Former Program Manager for USAID/Brazil,  
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