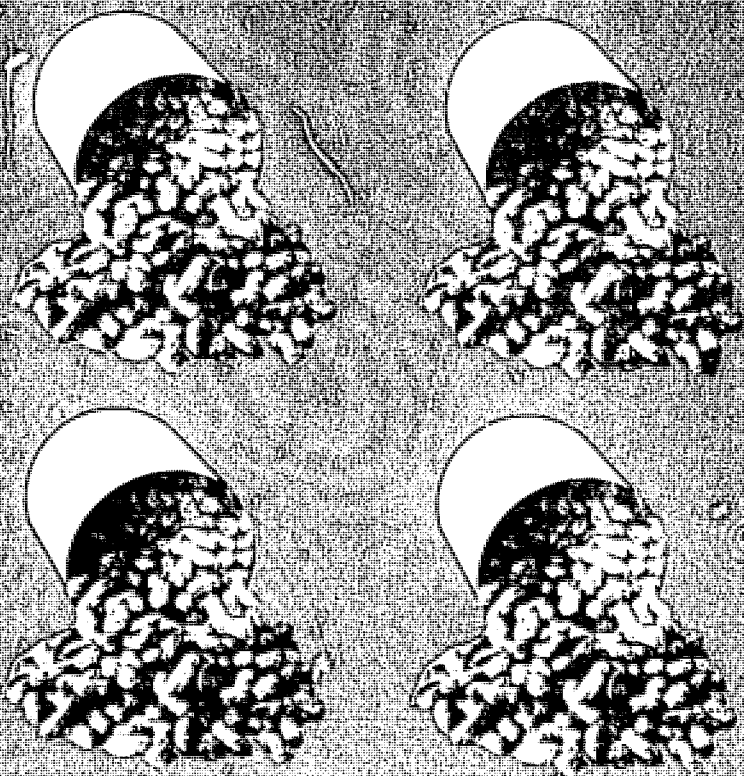


PEANUT

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Consumption Patterns in the Philippines

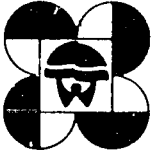
Angela Y. Garcia, Anna M. Salinas,
Reynold C. Aranda and Roberto D. Vitoriano



PHILIPPINE COUNCIL FOR AGRICULTURE, FORESTRY
AND NATURAL RESOURCES RESEARCH AND DEVELOPMENT
Department of Science and Technology

INSTITUTE OF FOOD SCIENCES AND TECHNOLOGY
UNIVERSITY OF THE PHILIPPINES AT LOS BAÑOS

THE PEANUT COLLABORATIVE RESEARCH SUPPORT PROGRAM
UNIVERSITY OF GEORGIA, GEORGIA, U.S.A.



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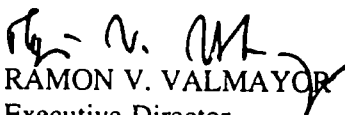
To Our Valued Reader:

This publication, *Peanut Consumption Patterns in the Philippines*, highlights the results of a study conducted by the University of the Philippines at Los Baños.

This book evaluates the reasons why consumption/utilization of peanut and its processed by-products in the country is low. It also gives recommendations to solve the problems that plague the peanut industry.

We believe this publication will be a useful reference material.

Sincerely yours,


RAMON V. VALMAYOR
Executive Director

PHILIPPINE COUNCIL FOR AGRICULTURE, FORESTRY AND NATURAL RESOURCES
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Book Series No. 91/1990

PEANUT
Consumption Patterns
in the Philippines

**Virgilio V. Garcia, Sonia M. Rubico, Racquel C. Arenas,
and Roberta D. Valmonte**

**THE PHILIPPINE COUNCIL FOR AGRICULTURE, FORESTRY
AND NATURAL RESOURCES RESEARCH AND DEVELOPMENT**
Department of Science and Technology

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1990**

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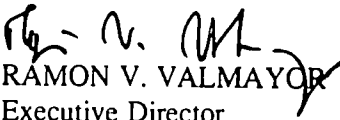
Norma V. Llemmit
Applied Communication Division

Foreword

As proof that peanut is a popular food among the Filipinos, its processed products are found in almost every market, street-corner stalls, and in any public place where people gather.

Regions vary in preparing the many delicious food concoctions. But most popular are boiled and roasted peanut and peanut butter. The per capita consumption of peanut remains low, which implies that it is just a minor item in the Filipino diet.

This study on peanut consumption patterns is, therefore, timely. Factors that affect its low per capita consumption and its utilization must be determined. This study by Dr. Virgilio V. Garcia and his research group at the Institute of Food Science and Technology, University of the Philippines at Los Baños answered these questions. Moreover, recommendations to counteract the problems plaguing the local peanut industry were offered. All these should be considered if future government programs on peanut will be implemented.


RAMON V. VALMAYOR
Executive Director
PCARRD

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Dr. Ana V. Resurreccion, for helping us in the questionnaire development, and to the other staff of the Department of Food Science and Technology at the University of Georgia Experiment Station for providing the Statistical Analysis System (SAS) Program, and for the training of Ms. S. Rubico on computer and data analysis;

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To the 1,126 respondents who provided the necessary data for the completion of this survey.

Contents

Foreword	v
Acknowledgment	vi
Abstract	1
Introduction	2
Peanut Production in the Philippines	2
Peanut Importation	5
Data Source and Analytical Procedure	9
Questionnaire Development	9
Data Collection	10
Data Analysis	10
Results and Implications	11
The Respondents	11
Distribution	11
Characteristics	11
Attitude to Peanut Consumption	19
Use of Media	19
Forms/Uses of Peanuts	20
Most Preferred Peanut Products	21
Storage of Peanuts at Home	21
Sources of Peanuts	21
General Pattern of Peanut Consumption	23
Opinions/Feelings About Peanuts	24
Peanut Consumption	25
Raw Peanut	25
Boiled Peanut	25
Roasted Peanut	26
Fried Peanut	27
Peanut Butter	28
Peanut Candies	30
Peanut as a Food Ingredient	31
Peanut Oil	32
Peanut Products in the Area	33
Consumption Patterns of Various Food Items	34
Cereals	35
Meat, Poultry, and Fish	38
Vegetables and Fruits	44
Milk	45
Beverages	50
Dairy Products/Bread Spread	53
Root Crops	61
Candies/Snack Items	61

Nutrient Analysis of Various Food Items Including Peanuts	61
A Comparison of Peanut Consumption	65
Determinants of Peanut Consumption and Utilization	66
Summary and Conclusion	68
Recommendations	70
Literature Cited	71
Appendices	73

- 1 -

Abstract

Peanut was found to be popularly consumed fried (62.5%), boiled (60.1%) or as peanut butter (61.6%). Peanut oil was relatively unknown to Filipino consumers while peanut butter was the most favorite product (35.4%), followed by fried (17.2%), roasted (16.6%), and boiled peanuts (11.1%).

Majority of the peanut was bought from flea markets.

The positive attitudes towards peanut outweighed the negative ones. The ranking was as follows: nutritious (74.7%); delicious (57.2%); a health food (29.2%); and expensive (25.3%).

The average per capita consumption per month of raw peanut was 182.95 g. Among the peanut products considered, boiled (153.36 g), roasted (111.91 g), fried (111.08 g), and peanut butter (73.20 g) were the top four items consumed. Peanut is highly acceptable among the Filipino consumers, but its high cost may explain its minimal consumption in the Philippines.

Some peanut products were area-specific, but peanut butter was produced in all the 13 regions of the Philippines, followed by fried, roasted, greaseless, and candied (i.e. brittle) peanuts.

Peanut was usually consumed less frequently (weekly or monthly), compared to other food items (cereals, meat/poultry/fish, vegetables) which were consumed daily or almost regularly.

The calculated energy and protein consumption per day was less than the required daily allowance (RDA) due to the high cost of traditional sources of protein such as meat, poultry, fish, and dairy products.

Introduction

Peanut (*Arachis hypogea* L.) is also known in other parts of the world as groundnut, earthnut, pistache de terre, grober, monkey nut, Manila nut, ground beans, and pindar (Arthur 1953). It has much to contribute to the solution of the world's food shortage, whether the need is for protein, edible oil or calories since it is produced in more than 50 countries in all six continents (Rhee 1985). Approximately 19 million mt of peanuts are harvested from a planted area of about 18 million ha. They contribute approximately 3.5 million mt to the protein pool for the world's food and feed uses (Lusas 1979).

Peanut, compared to other crops in the world, has more advantages as a food ingredient (McWalters 1983). Among its many traits are pleasing aroma and flavor, even-dry texture, high protein and energy value, and suitability for producing other food products.

Peanut Production in the Philippines

Peanut production in 1985 and 1986 in the Philippines is listed in Table 1. The country produced a total 45,175 and 43,907 mt of peanuts in 1985 and 1986, respectively. The top three regions in terms of total peanut production (in 1986) were as follows: Cagayan Valley (Region II), 40%; Ilocos Region (Region I), 25%; and Southern Tagalog (Region IV), 7% (Fig. 1). Northern Mindanao (Region X) produced the lowest (1%).

Based on hectareage, Cagayan Valley ranked first with a total area planted to peanut of 24,240 ha (49%), followed by the Ilocos Region and Southern Tagalog which contributed 12% and 7%, respectively (Fig. 2).

However, based on yield, Ilocos Region ranked first with 1.80 mt/ha, followed by Central Luzon (Region III) with 1.34 mt/ha, and by Central Mindanao (Region XII) with 1.28 mt/ha (Table 1). Eastern Visayas (Region VIII) registered the lowest yield at only 0.46 mt/ha. These findings only show that, while total production of an agricultural

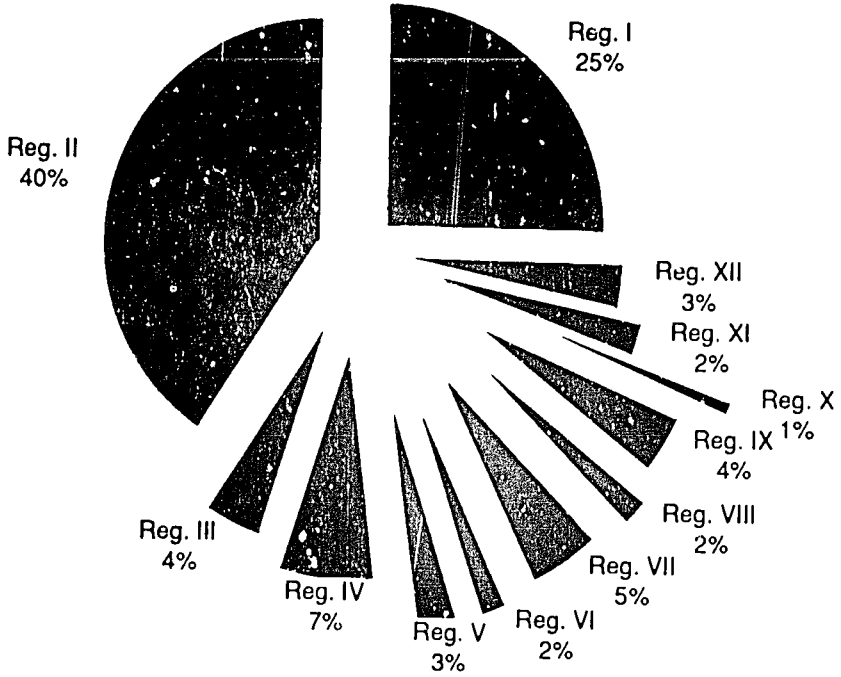


Fig. 1. Peanut Production (mt) in 1986 (BAS 1987).

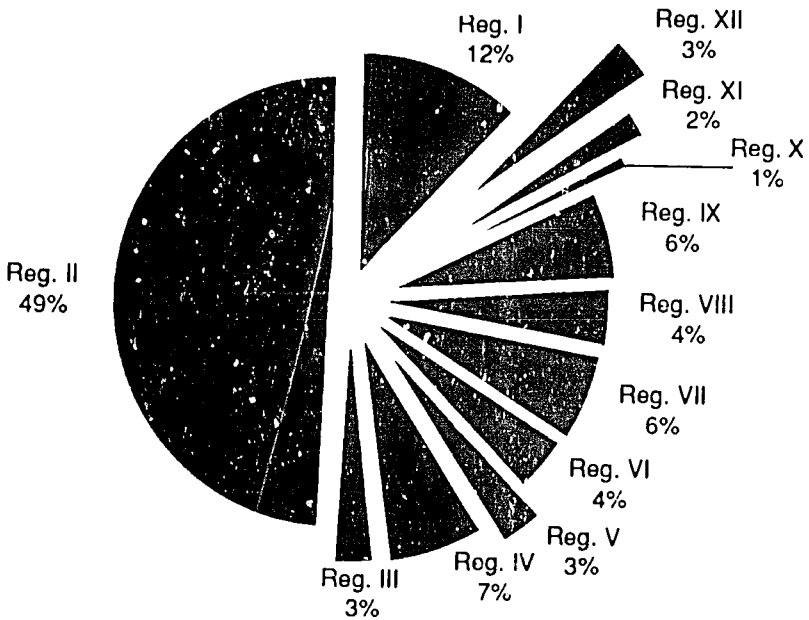


Fig. 2. Area (ha) of peanut production in 1986 (BAS 1987).

Table 1. Peanut production in the Philippines, 1985 and 1986.

Region	₱000 Value ^a		Production (mt)		Area (ha)		Yield/ha	
	1985	1986	1985	1986	1985	1986	1985	1986
I — Ilocos Region	119,620	123,871	11,102	11,117	6,150	6,200	1.80	1.79
II — Cagayan Valley	137,957	164,879	19,392	17,494	24,160	24,240	0.89	0.72
III — Central Luzon	12,447	18,139	1,431	1,954	1,260	1,460	1.14	1.34
IV — Southern Tagalog	30,760	28,364	3,336	3,051	4,210	3,400	0.79	0.90
V — Bicol Region	10,530	12,179	1,132	1,118	1,400	1,350	0.81	0.83
VI — Western Visayas	8,434	8,014	919	979	1,920	2,050	0.48	0.48
VII — Central Visayas	19,763	26,164	2,023	2,174	3,120	3,200	0.65	0.68
VIII — Eastern Visayas	7,066	6,753	843	844	1,830	1,830	0.46	0.46
IX — Western Mindanao	12,152	13,968	1,731	1,661	2,720	2,740	0.64	0.61
X — Northern Mindanao	5,593	5,304	587	563	710	600	0.83	0.94
XI — Southern Mindanao	6,661	7,857	760	889	1,190	1,170	0.64	0.76
XII — Central Mindanao	12,692	15,381	1,919	2,163	1,510	1,690	1.27	1.28
Philippines	383,674	430,873	45,175	43,907	50,230	49,930	0.90	0.88

Source: Bureau of Agricultural Statistics, 1985.
Department of Agriculture, Quezon City, Philippines

Bureau of Agricultural Statistics, 1986.
Department of Agriculture, Quezon City, Philippines

commodity may be a function of yield and area devoted to that commodity, the resultant yield is more of an indication of the effective and efficient use of the various production resources/inputs employed.

In 1986, the Philippines earned a total of around ₱430.9 M from peanuts, with Cagayan Valley contributing an income of ₱164.9 M, Ilocos Region with ₱123.9 M, and Southern Tagalog Region with ₱28.4 M. The smallest income was from Northern Mindanao valued at ₱5.3 M.

Peanut Importation

Peanut is largely in demand in the Philippines as shown in Table 2 and Fig. 3. In 1985, 3.7 M kg (P14 M) were imported. This increased to 8.4 M kg (P69 M) in 1986, and to 17.3 M kg (P140 M) in 1987. The main suppliers of imported raw peanuts were Mainland China and Taiwan in 1985, and Thailand and Singapore in 1986. Peanuts were also imported from Malaysia and Hongkong. However, according to the peanut traders in Divisoria, which is the center of peanut trade in the Philippines, peanuts from Thailand and Singapore originally came from China. An import ban or tighter regulations on the importation of peanut in 1986 effected a market rerouting. In 1987, 67% of the Philippine imported peanuts were from Singapore.

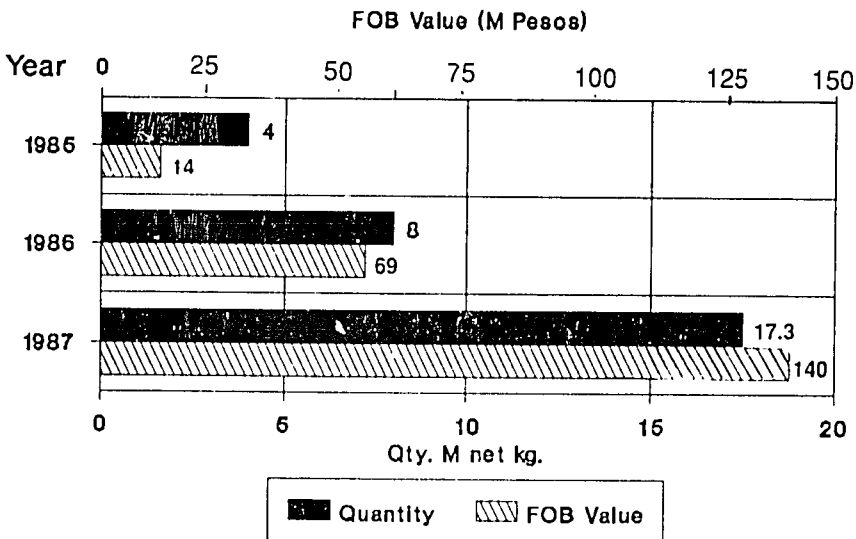


Fig. 3. Philippine peanut importation in 1985 to 1987 (NEDA 1986, 1987).

Table 2. Philippine raw peanut importation in 1985 to 1987.

Source (Country)	1987 ^z		1986 ^y		1985 ^y	
	Quantity (net kg)	FOB Value (\$)	Quantity (net kg)	FOB Value (\$)	Quantity (net kg)	FOB Value (\$)
Thailand	1,266,600	617,989	3,253,552	1,515,486	236,580	46,094
Malaysia	—	—	82,000	30,012	50,000	18,093
Singapore	11,360,178	4,538,428	2,627,640	986,164	—	—
China, People's Republic of	2,525,367	754,402	1,720,040	643,800	1,796,380	403,463
Hongkong	1,316,400	566,101	676,725	266,054	569,100	108,962
Republic of China (Taiwan)	—	—	34,000	13,600	1,087,110	120,658
North Vietnam	787,500	315,000	—	—	—	—
Total	17,256,045	\$6,791,920 (₱ 139,829,713)	8,393,957	\$3,455,116 (₱ 69,102,320)	3,739,170	\$697,568 (₱ 13,951,360)

^z1987 Foreign Trade Statistics, National Census and Statistics Office,
National Economic and Development Authority (NEDA), Manila, Philippines.

^y1986 Foreign Trade Statistics, National Census and Statistics Office,
National Economic and Development Authority (NEDA), Manila, Philippines.

The dumping of large-sized, lower-priced Chinese peanuts resulted in depressed prices for the locally produced peanuts by around ₱2.00/kg (De la Cruz 1985). The demoralized local growers urged the government to ban future importation or to slap a high tariff on the imported commodity.

In 1985, the Ministry of Trade and Industry (MTI) sought remedies to discourage the further entry of cheap Chinese peanuts (Phil. Sunday Express 1985). The possibility that peanuts were smuggled was also looked into by the government. While the 1986 NEDA report did not document importation of peanut from North Vietnam, the peanut traders attested that peanuts from North Vietnam, were abundant in Divisoria, and were being sold much cheaper than the locally produced ones. This discouraged the peanut traders and farmers to grow peanuts. According to Co (1988) (owner of the biggest peanut trading firm in Santiago, Isabela), peanut yield in 1988 was expected to decrease because imported peanuts were sold cheaper in the market than the locally harvested peanut.

Imported peanuts were less expensive and more appealing to the buying public because of their bigger sizes and generally longer shelf-life compared to the locally produced. Thus, peanut farmers should find ways to improve the postharvest handling and storage of peanuts. The government must also provide technical help to improve the drying and storage technologies, and plant breeders should develop high-quality peanut varieties. To encourage local production, the government must limit future importation.

Peanut remains as one of the most dependable cash crops in the Philippines. Its markets, whether for raw or processed forms, remain uncrowded (Mediavillo 1985). Peanuts are popularly manufactured into peanut butter, candy bars, peanut cakes, brittle, and other confectionery preparations. Besides farmers, scores of other people earn a living from processed peanuts, particularly spiced (using garlic or pepper) salted peanuts. Salted peanuts find ways into restaurants as appetizers for drinkers, in moviehouses, in street corners, and almost everywhere where there is a public gathering. Further, the demand for salted peanuts is high, despite the proliferation of commercial brands in the market. According to studies conducted by the National Economic and Development Authority (NEDA), peanut butter is also in demand in the country (Mediavillo 1985). Nevertheless, despite the popularity of peanuts in the Filipino diet, the per capita consumption in the country is low, representing only a minor dietary item.

The Filipinos must find answers to the following questions plaguing the Philippine peanut industry: What are the factors that affect the low per capita consumption of peanuts? What are the determinant variables that influence the utilization of peanut in the Philippines? What is the role of peanut in the Filipino diet, and how does it compare to the consumption of other food items?

This study, through the assistance of the Peanut CRSP in collaboration with PCARRD and UPLB, was conducted to answer these questions. The survey was necessary because there was no published research on the consumption pattern of peanuts in the Philippines, which could become a concrete basis for the development of the peanut industry in the country. The specific objectives of the study include:

1. To determine the existing consumption patterns of peanuts for both raw and processed forms in Philippine households;
2. To determine the consumers' perception of peanut and peanut products;
3. To compare the consumption of peanuts with that of various food items;
4. To determine the nutrient composition of the Filipino diet; and
5. To identify the determinants of peanut consumption and utilization.

Data Source and Analytical Procedure

Questionnaire Development

The questionnaire for peanut consumption was developed for Filipino respondents. A pretest of the questionnaire was conducted in Sto. Tomas, Batangas and Los Baños, Laguna. Revisions were done after the pretest, based on the respondents' comments.

The revised questionnaire, designed for self-administration, was written in English with the corresponding Filipino translation. It included a cover letter (Appendix 1) as recommended in the total design method (TDM) described by Dillman (1978) in an attempt to maximize response rate. The cover letter consisted of an explanation of what the study was about and its social usefulness.

The questionnaire (Appendix 2) was divided and structured into five parts:

- Part I — Socioeconomic and demographic questions which include the name (optional), address, age, sex, marital status, status of household, educational attainment, occupation, household income and expenditures, marketing, and eating habits
- Part II — Peanut consumption - forms of peanut consumed, favorite peanut product, and source of peanuts
- Part III — Attitude to peanut consumption, household consumption in quantity, and expenditures and frequency of consumption
- Part IV — Peanut products in the area
- Part V — Consumption patterns of 33 food items, quantity, value, and frequency of consumption

Data Collection

The survey, which covered 13 regions of the Philippines, was conducted from June to October 1987. At least one province/city/ town was chosen for each region. The number of respondents for each region was based on population. The questionnaires were distributed personally by the interviewer, who was either a native of the place or able to speak the dialect. If neither, an interpreter's help was solicited, as the questionnaire was written in English and Filipino. Some of the questions had to be translated to avoid misunderstanding by the respondents. Some completed questionnaires were immediately collected while others were asked to be returned by mail, for which self-stamped envelopes were provided.

Data Analysis

The completed questionnaires were coded using a 7-digit number. The first two digits represented the region (0-12), the third and fourth digits, the province (1-77), while the last three digits were the respondents' number (1-91). Likewise, the responses were coded, entered, and analyzed in IBM-XT Microcomputer using Wordstar, DBASE III+, and Statistical Analysis System (SAS) Computer Packages.

Results and Implications

The Respondents

Distribution

The map of the Philippines indicating the geographical locations of the towns/provinces selected from the 13 regions surveyed is shown in Figure 4. The number of target respondents for each town/province was based on their respective estimated population of 1984. The total number of questionnaires initially sent was 1,500. A total of 1,126 questionnaires were returned/completed, representing a 75.1% rate of return. The respondents' distribution among the provinces for each region, based on the completed/returned questionnaires, is given in Table 3. The regional frequency distribution of the respondents and the equivalent percentage are also listed in the Table. Region IV (Southern Tagalog), which was the highest among the regions surveyed, was represented by 29.2% of the total respondents; while Region II (Cagayan Valley) was represented the least with 2.4%. Almost 50% of the respondents were from Luzon, which covered Regions I to V and the National Capital Region (NCR); while 29.8% were from the Visayas (Region VI to VIII). Mindanao area (Regions IX to XII) accounted for the remaining 24.3%.

Meanwhile, Table 3a shows the distribution of respondents by region and mode of return of questionnaires in integral percentile values.

Characteristics

The demographic and socioeconomic characteristics of the respondents are summarized in Table 4.

Age. Majority of the respondents were from 20-39 years old (56.6%); 14.6% were below 20 years old; and 1.7% were above 65 years old.

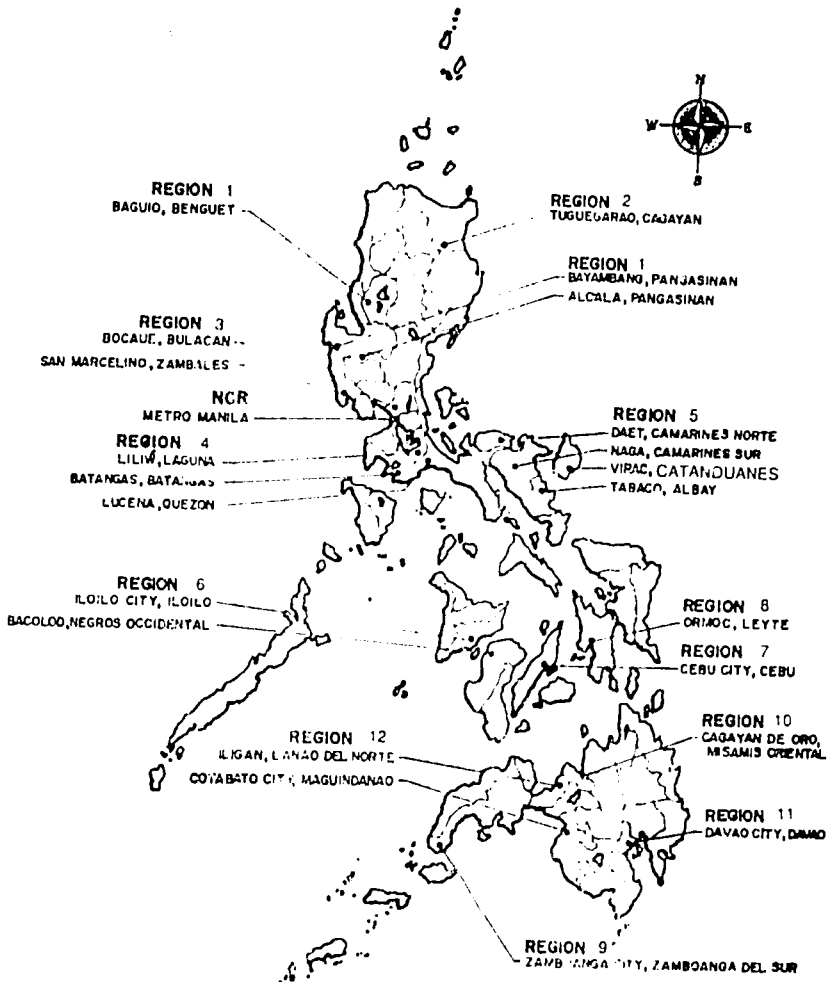


Fig. 4. Peanut production areas surveyed.

Table 3. Frequency of respondents by region and by province.

Region	Code	Province	Frequency	Percentage (%)
NCR	77	Metro Manila	60	5.3
1	Ilocos Region — 107			
	2	Benguet	13	1.2
	4	Ilocos Sur	1	0.1
	5	La Union	0	0.0
	6	Mt. Province	2	0.2
	7	Pangasinan	91	8.1
2	Cagayan Valley — 29			
	8	Batanes	0	0.0
	9	Cagayan	27	2.4
	11	Isabela	1	0.1
	12	Kalinga-Apayao	1	0.1
3	Central Luzon — 93			
	16	Bulacan	44	3.9
	20	Zambales	49	4.4
4	Southern Tagalog — 225			
	22	Batangas	83	7.4
	24	Laguna	58	5.2
	27	Oriental Mindoro	1	0.1
	29	Quezon	83	7.4
5	Bicol Region — 106			
	32	Albay	33	3.0
	33	Camarines Norte	7	0.6
	34	Camarines Sur	18	1.6
	35	Catanduanes	48	4.3
6	Western Visayas — 87			
	39	Antique	3	0.3
	42	Iloilo	28	2.5
	43	Negros Occidental	56	5.0
7	Central Visayas — 79			
	44	Bohol	1	0.1
	45	Cebu	78	6.9
8	Eastern Visayas — 64			
	49	Leyte	64	5.7
9	Western Mindanao — 77			
	55	Basilan	3	0.3
	57	Tawi-tawi	1	0.1
	58	Zamboanga del Norte	3	0.3
	59	Zamboanga del Sur	70	6.2

14 PEANUT CONSUMPTION PATTERNS

Table 3. Continued.

Region	Code	Province	Frequency	Percentage (%)
10	Northern Mindanao — 76			
	61	Agusan del Sur	1	0.1
	62	Bukidnon	4	0.4
	63	Camiguin	1	0.1
	64	Misamis Occidental	1	0.1
	65	Misamis Oriental	69	6.1
11	Southern Mindanao — 52			
	69	Davao Oriental	50	4.4
	71	South Cotabato	2	0.2
12	Central Mindanao — 71			
	72	Lanao del Norte	9	0.8
	74	Maguindanao	60	5.3
	76	Sultan Kudarat	2	0.2

Table 3a. Frequency of respondents by region and mode of returns of questionnaires.

Region	Mode of Return of Questionnaires				Total
	By Mail	%	Personally	%	
NCRMetro Manila	30	50	30	50	60
1 Ilocos Region	75	70	32	30	107
2 Cagayan Valley		14	25	86	29
3 Central Luzon	16	17	77	83	93
4 Southern Tagalog	39	17	186	83	225
5 Bicol Region	—	—	106	100	106
6 Western Visayas	27	31	60	69	87
7 Central Visayas	50	63	29	37	79
8 Eastern Visayas	20	31	44	69	64
9 Western Mindanao	26	34	51	66	77
10 Northern Mindanao	28	37	48	63	76
11 Southern Mindanao	21	40	31	60	52
12 Central Mindanao	28	39	43	61	71
Philippines	364		762		1,126

Table 4. Demographic and socioeconomic characteristics of the respondents.

Characteristics	Frequency	Percentage (%)
Age		
1 — Under 20 years old	165	14.65
2 — 20 - 39 years old	638	56.66
3 — 40 - 49 years old	170	15.10
4 — 50 - 65 years old	105	9.33
5 — Over 65 years old	19	1.69
0 — No Answer	29	2.58
Total	1,126	100.0
Marital Status		
Single	476	42.27
Married	602	53.46
Separated	6	0.53
Widowed	27	2.41
No Answer	15	1.33
	1,126	100.00
Sex		
Male	317	28.15
Female	794	70.52
No Answer	15	1.33
Total	1,126	100.0
Educational Attainment		
0 — None	27	2.4
1 — Elementary	72	6.4
2 — High School	168	15.9
3 — Vocational School	49	4.4
4 — College	687	61.0
5 — Graduate/Professional	103	9.2
No Answer	20	1.7
Total	1,126	100.0
Occupation		
1 — Homemaker	122	10.8
2 — Employed full-time	665	59.1
3 — Employed part-time	99	8.8
4 — Student	175	15.5
5 — Unemployed	38	3.4
6 — Retired	9	0.8

Table 4. Continued.

Characteristics	Frequency	Percentage (%)
0 — No Answer	18	1.6
Total	1,126	100.0
Approximate monthly total gross income of household		
-1,000	88	7.8
1,000 - 2,999	302	26.8
3,000 - 4,999	310	27.5
5,000 - 6,999	157	13.9
7,000 - 9,999	83	7.4
10,000 - 12,999	44	3.9
13,000 - 14,999	13	1.2
15,000 - 16,999	7	0.6
17,000 - 20,000	12	1.1
>20,000	29	2.6
No Answer	81	7.2
Total	1,126	100.0
Average household food consumption in pesos/week		
0 — No Answer	154	13.7
1 — < 100.00	42	3.7
2 — 100 - 200	180	16.0
3 — 201 - 300	227	20.1
4 — 301 - 400	127	11.3
5 — > 400.00	396	35.2
Total	1,126	100.0
Total no. of household members		
1 - 3	112	9.9
4 - 6	534	47.4
7 - 9	342	30.4
> 9	138	12.3
Total	1,126	100.0

Table 4. Continued.

Characteristics	Frequency	Percentage (%)
No. of persons regularly eating their meals in the house		
1 - 5	535	47.5
6 - 10	493	43.8
11 - 15	48	4.8
16 - 20	2	0.2
21 - 25	2	0.2
No Answer	46	4.0
Total	1,126	100.0
Do you buy and cook food in your household most of the time?		
Yes	800	71.1
No	283	25.1
No Answer	43	3.8
Total	1,126	100.0
Person who buys and cooks food most of the time		
1 — Wife	730	64.8
2 — Husband	54	4.8
3 — Child	62	5.5
4 — Maid/Helper	173	15.4
5 — Others	66	5.9
No Answer	41	3.6
Total	1,126	100.0
Height (cm)		
100 - 120	1	0.1
121 - 140	17	1.5
141 - 160	692	61.5
161 - 180	348	30.9
181 - 200	4	0.3
No Answer	64	5.7
Total	1,126	100.0

Table 4. Continued.

	Frequency	Percentage (%)
Weight (kg)		
30 - 46	276	24.5
47 - 63	617	54.8
64 - 80	113	10.0
81 - 97	11	1.0
No Answer	109	9.7
Total	1,126	100.0
Feelings toward present weight		
1 — Wants to lose weight	241	21.4
2 — Does not want to lose/ gain weight	486	43.2
3 — Wants to gain weight	360	32.0
No Answer	39	3.4
Total	1,126	100.0

Sex/marital status. The respondents were predominantly female (70.5%); the male respondents comprised 28.2%. The married respondents comprised 53.5%; single 42.3% while only 2.4% and 0.5% were widowed and separated, respectively.

Educational attainment/occupation. A high percentage (61.0%) of the respondents had college education; 15.9% had high school education; 9.2% had graduate training; and 2.4% had no schooling. A total of 665 respondents (59.1%) were employed full-time; 99 (8.8%) were employed part-time; 175 (15.5%) were students; and 122 (10.8%) were homemakers.

Household income and expenditures. The approximate monthly total household gross income of the respondents was widely distributed. There were 310 families (27.5%) earning from ₱3,000-4,999/ month; 302 (26.8%) earning from ₱1,000-2,999; and 157 (13.9%) from ₱5,000-6,999. A total of 88 families (7.8%) had a monthly gross income below ₱1,000.

Of the Filipino families surveyed, 35.3% had an average household food expenditures of more than ₱400/week or ₱1,600/month; 20.2% was spending ₱201-300/week, while only 3.7% spent less than ₱100/week or (₱400/month) for food. Thus, for a family earning ₱3,000/month, 40%

of the monthly income (or ₱1,200/month) was spent for food. For low and middle income families, the bulk of the expenses goes to food.

Household size/eating and marketing habits. The size of the Filipino families and their corresponding percentages were: 4-6 members, 47.4%; 7-9 members; 30.4%; 1-3 members, 9.9%; and those with more than 9 members, 12.3%. The large household size may be attributed to the presence of grandparents, other immediate relatives, married children, and sometimes maids or helpers. With regards to the number of persons regularly eating their meals in the house, 47.5% of the households had 1-5 members as "regular eaters" and 43.8% had 6-10 members.

Most of the respondents buy and cook food at home (71.1%), while only 25.1% eat outside the house. The wife was usually the one who buys and cooks the food (64.8%), followed by the maid/helper (15.4%). Only 4.8% of the respondents had the husband doing the marketing and cooking of food.

The above findings may explain why more than 70% of the respondents were female. The wife is more knowledgeable in answering the questionnaire because she generally markets and cooks. In addition, the wives are available for interview most of the time.

Height/weight. With regards to physical characteristics, 61.5% of the respondents were 141-160 cm tall, with 30.9% measuring 161-180 cm. On the other hand, 54.8% weighed 47-63 kg while 24.5% were 30-46 kg in weight. Of this number of respondents; 43.2% felt that they did not want to lose or gain weight. However, more respondents wanted to gain weight (32.1%) compared to those who wanted to lose weight (21.4%)

Attitude to Peanut Consumption

Use of Media

Table 5 shows how the respondents used media at home. Everyday, radio was the most frequently used (61.2%), followed by television (55.7%), and the least was newspaper at 37.7%. A higher percentage of the respondents (17.5%) rarely/never read newspaper compared to those watching the television (10.9%) and listening to the radio (9.8%). More than 20% did not respond to the question.

Table 5. Use of various means of communication (mass media) by the respondents.

Frequency of Use	Means of Communication					
	Television	(%)	Newspaper	(%)	Radio	(%)
1 — Everyday	627	55.7	425	37.7	689	61.2
2 — Twice a week	79	7.0	145	12.9	52	4.6
3 — Once a week	40	3.6	93	8.3	22	2.0
4 — Rarely/never	123	10.9	197	17.5	110	9.8
5 — No Answer	257	22.8	266	23.6	253	22.5

Forms/Uses of Peanuts

Peanuts were popularly consumed fried (62.5%), boiled (60.1%) or as peanut butter (61%) (Table 6). Roasted peanuts were also rated relatively high (47.1%). Peanut oil was used by only 3.7% of the respondents, unlike in the United States and other countries where peanut is primarily converted to peanut oil and cake (Rhee 1985). This may be due to the more popular and widespread use of coconut oil in the Philippines. Peanut was also used in the preparation of candies (25.3%) and as food ingredient (25.0%).

Table 6. Frequency of peanuts consumed.

Forms of Peanuts Consumed	Frequency	Percentage
Raw peanuts	153	13.6
Boiled	681	60.1
Roasted	529	47.1
Fried	703	62.5
Ground	94	8.4
Peanut oil	42	3.7
Peanut butter	692	61.6
In candies	284	25.3
In cakes, cookies	203	18.1
As food ingredients	281	25.0
Others	51	4.5
Total	1,124	

Most Preferred Peanut Products

The ratings of the most preferred peanut product are shown in Table 7. Peanut butter was the most preferred product (35.4%), followed by fried peanuts (17.2%), roasted (16.6%), and boiled peanuts (11.1%).

Storage of Peanuts at Home

About 48.8% of the respondents stored peanuts/peanut products at home, of which 28.2% stored peanut butter, 28% stored boiled peanuts, 25.2% stored roasted peanuts, and 14.3% of the respondents stored fried peanut. Peanut oil was seldom stored at home (1%).

Sources of Peanuts

Majority of the consumers bought peanuts from flea (public or wet) markets (33.9%), from supermarkets (20.1%) or grocery stores (19.9%) and from door-to-door selling (13%) (Table 9). A small portion of the respondents (6.9%) grew peanuts and others got the product as a gift (6.3%).

Table 7. Frequency of peanuts consumed.

Most Preferred Peanut Product	Frequency	Percentage
Raw peanut	22	2.0
Boiled	125	11.1
Roasted	187	16.6
Fried	194	17.2
Ground	2	0.2
Peanut oil	3	0.3
Peanut butter	399	35.4
In candies	62	5.5
In cakes, cookies	17	1.5
As food ingredients	1	0.1
Others	2	0.2
No answer	122	9.9
Total	1,126	100.0

Table 8. Peanut storage patterns and attitudes.

Presence of Stored Peanuts	Frequency	Percentage
Yes	548	48.8
No	540	48.0
No Answer	36	3.2
Total	1,124	100.0
For Yes answer,		
forms of peanuts stored:		
1 — Raw	80	7.1
2 — Boiled	317	28.2
3 — Roasted	283	25.2
4 — Fried	161	14.3
5 — Ground	15	1.3
6 — Peanut oil	11	1.0
7 — Peanut butter	315	28.0
8 — In candies	70	6.2
9 — In cakes, cookies	27	2.4
10 — As food ingredient	39	3.5
11 — Others	17	1.5
For No answer, why?		
Just finished	69	12.8
Not really stored	342	63.3
Other reasons	129	23.9

Table 9. Frequency of the various sources of peanuts and peanut products.

Source of Peanut/Peanut Products	Frequency	Percentage
1 — Flea market	513	33.9
2 — Grocery	301	19.9
3 — Door-to-door selling	195	12.9
4 — Home-grown	104	6.9
5 — Gift	96	6.3
6 — Supermarket	304	20.1

General Pattern of Peanut Consumption

The degree of peanut consumption was as follows: consuming very much — 25.5%, not much — 62.3%, and does not — 4.7%. Eighty-six respondents (7.6%) did not respond (Table 10).

Of the 287 respondents who consume peanuts very much, 188 (65.5%) were attracted to its deliciousness, and 30 (10.5%) to its nutritiousness. Of the 701 respondents who do not eat peanut much, 171 (24.4) regarded it as an expensive commodity; 80 (11.4%) seldom buy it; 72 (10.3%) indicated that not everybody in the household likes peanut; 65 (9.3%) saw it as unhealthy and fattening food and; 170 (24.3%) respondents gave no explanation. Fifty-two respondents (4.7%) do not eat peanut because it is expensive (16), unhealthy/fattening (10), scarce (9), and 10 respondents had no answer.

Of those who eat/consume peanuts, 14 respondents specifically thought that peanut was a food for the brain. However, of those who view peanut as an unhealthy food, 29 respondents perceived it as too oily;

Table 10. General pattern of peanut consumption.

Feelings/Opinions	Very much	Not Much	Does Not	No Answer
Frequency	287.0	701.0	52.0	86.0
Percentage	25.5	62.3	4.7	7.6

	Freq	%	Freq	%	Freq	%
Likes/delicious	188	65.5	8	1.1		
Nutritious	30	10.5	2	0.3		
Plentiful	9	3.1	1	0.1		
Cheap	3	1.0	1	0.1		
Many uses/versatile	6	2.1	5	0.7		
Expensive			171	24.4	16	30.8
Not liked by everybody			72	10.3		
Scarce			63	9.0	9	17.3
Unhealthy/fattening			65	9.3	10	19.2
Seldom buy/sold to market			80	11.4		
Unliked/not delicious			26	3.7	5	9.6
Others	14	4.8	37	5.3	2	3.8
No Answer	37	13.0	170	24.3	10	19.2

causes pimple-16; causes constipation-3; fattening-3; activates tonsillitis-1; enhances skin growth-1; causes cough-2, diarrhea-7, and high blood pressure-2. These were the comments by the respondents; some of which can only be fallacies, but some were facts based on reports. Early studies showed that eating raw peanuts caused headaches, stomach distress, and full-headedness, but roasted peanut solved these problems (Woodroof 1966).

The positive attitudes towards peanut outweighed the negative ones; it is the high price of peanut which remained the number one problem for the Filipino peanut consumers.

Opinions/Feelings About Peanuts

The general opinion or feeling about peanut as a food item is listed in Table 11. There were five positive and five negative characteristics listed; the respondents were asked to check the items which they thought were the qualities of peanuts.

The top three qualities chosen were all positive. The first positive attribute cited was the commodity's nutritiousness (74.7%); second, its being delicious (57.2%); and third, its being a health food (29.2%). The results confirm the high acceptability of peanut among the Filipino consumers, but the cost consideration of the commodity may explain its minimal consumption in the Philippines.

Table 11. Opinions/feelings toward peanuts as a food item.

Opinion/Feeling About Peanut as Food	Frequency	Percentage
Healthy	329	29.2
Nutritious	840	74.7
Expensive	285	25.3
Plentiful	103	9.3
Delicious	643	57.2
Unhealthy	18	1.6
Not nutritious	3	0.3
Cheap	82	7.4
Scarce	38	3.4
Not delicious	12	1.1

Peanut Consumption

Peanut is already a naturally compounded food, ready to be eaten with minimum preparation (Lusas 1979), by simple roasting and grinding processes (Rhee 1985). About 60% of the peanuts harvested outside the United States are crushed for oil (Woodroof 1973), while more than half of the peanuts used in the United States as foods are consumed in the form of peanut butter (Rhee 1985). In the Philippines, peanut is usually consumed as boiled, roasted in or out of shell, and as peanut butter. It is also used in the manufacture of candy bars, cakes, brittles, and other confectionery preparations.

The consumption rate of the ten different forms of peanuts is individually discussed and compared between regions.

The monthly household and per capita peanut consumption and expenditures were computed, with the latter obtained by dividing the household consumption by the total number of household members. The average frequency of consumption was computed based on these codes: 1 — daily, 2 — weekly, and 3 — monthly.

Raw Peanut

Table 12 shows that Ilocos Region (Region 1) and Southern Mindanao (Region 11) were the two highest consumers of raw peanut, both with an average household consumption of 1.8 kg/month and a per capita consumption of 0.57 kg and 0.26 kg/month, respectively. The lowest consumption was registered by Western Visayas (Region 6) with monthly household consumption of 0.18 kg and a per capita consumption of 0.37 kg/month.

The national average frequency of consumption was weekly (2.23) with a household consumption of 1,065 g worth ₱27.42 or a per capita demand of 183 g worth ₱4.36.

Boiled Peanut

Newly dug, unshelled peanuts are boiled in a weak brine and eaten as a delicacy in some areas (Woodroof 1973). The kernels are moist and quite brittle, with a mild nutty flavor, and a firm, slightly gelatinous texture (Rhee 1985).

The highest consumption of boiled peanuts at the household level, with approximately 1.98 kg of peanuts consumed per month was in

Table 12. Monthly household and per capita quantity and expenditure consumption of raw peanuts in the Philippines.

Region	Household		Per Capita		Average Frequency of Consumption*
	Quantity (g)	Value (₱)	Quantity (g)	Value (₱)	
NCR Metro Manila	1,630.00	33.20	219.02	4.48	2.60
1 Ilocos	1,787.50	35.74	566.48	11.32	2.19
2 Cagayan Valley	—	—	—	—	—
3 Central Luzon	1,000.00	35.00	125.00	4.38	3.00
4 Southern Tagalog	770.38	21.29	127.82	3.96	2.38
5 Bicol Region	1,359.71	17.66	247.73	3.07	2.20
6 Western Visayas	180.60	17.20	37.83	3.51	2.40
7 Central Visayas	777.86	29.09	106.32	4.00	2.28
8 Eastern Visayas	477.50	39.86	65.98	5.62	2.22
9 Western Mindanao	805.00	15.80	147.42	2.66	2.00
10 Northern Mindanao	1,168.89	26.09	107.95	3.14	2.57
11 Southern Mindanao	1,768.67	36.67	259.43	5.51	2.00
12 Central Mindanao	1,055.00	21.50	184.38	4.54	1.70
Philippines	1,065.09	27.42	182.95	4.36	2.23

* Legend : 1.0 — Daily;
2.0 — Weekly;
3.0 — Monthly.

Cagayan Valley. This was followed by Eastern Visayas (1.33 kg) and Northern Mindanao (1.25 kg). However, based on per capita consumption, Eastern Visayas registered a higher average of 557 g compared to Cagayan Valley at 287 g. The household (2.08 kg) and per capita consumption (6.03 kg) of boiled peanuts in Southern Mindanao was very low.

At the national level, boiled peanuts was consumed weekly (2.20), with household and per capita averages at 831.40 g and 153.36 g respectively (Table 13).

Roasted Peanut

Roasting is a rapid cooking procedure using dry heat, producing a variety of salted and unsalted forms, whole kernel, split kernel, and chopped nut products. In this process, peanuts, particularly shelled ones, are mixed with sand for even distribution of heat.

Table 13. Monthly household and per capita quantity and expenditure consumption of boiled peanuts in the Philippines.

Region	Household		Per Capita		Average Frequency of Consumption*
	Quantity (g)	Value (₱)	Quantity (g)	Value (₱)	
NCR Metro Manila	915.00	37.56	112.60	4.56	2.44
1 Ilocos Region	1,151.19	33.65	232.86	4.88	1.90
2 Cagayan Valley	1,978.57	19.14	286.66	2.81	2.28
3 Central Luzon	786.00	23.56	210.82	5.82	2.43
4 Southern Tagalog	741.45	21.88	120.63	3.76	2.12
5 Bicol Region	613.95	14.80	110.59	2.64	1.89
6 Western Visayas	821.11	20.33	134.33	3.18	2.22
7 Central Visayas	295.00	8.81	50.38	1.69	1.89
8 Eastern Visayas	1,333.33	19.00	557.14	8.78	2.33
9 Western Mindanao	652.78	9.50	148.33	1.47	2.08
10 Northern Mindanao	1,254.29	23.88	158.72	3.64	2.23
11 Southern Mindanao	208.33	4.00	32.08	0.61	1.67
12 Central Mindanao	820.50	18.80	128.22	3.00	2.40
Philippines	831.40	20.69	153.36	3.63	2.20

* Legend : 1.0 — Daily;
 2.0 — Weekly;
 3.0 — Monthly.

The NCR or Metro Manila and Central Mindanao were the top consumers of roasted peanuts with a monthly household consumption of 1,105 g and 1,028 g, respectively, (Table 14). On the other hand, at the per capita consumption level, NCR was still leading (204 g), but now followed by Ilocos Region (186 g) and Western Mindanao (178 g). The high price of peanuts in Metro Manila (NCR) was more evident compared to those in the other regions. As a whole, a Philippine household was consuming an average of 632.6 g of roasted peanuts a month, at a per capita average of 111.9 g/month. Based on the frequency of consumption, Filipinos usually consume roasted peanut weekly (2.12 g).

Fried Peanut

Deep-fat frying is the most common method of cooking peanut; it is usually salted and sometimes spiced with pepper or garlic.

Table 15 shows the high per capita monthly consumption of fried peanuts in the Ilocos Region, followed by NCR, then by Central Luzon,

Table 14. Monthly household and per capita quantity and expenditure consumption of roasted peanuts in the Philippines.

Region	Household		Per Capita		Average Frequency of Consumption*
	Quantity (g)	Value (₱)	Quantity (g)	Value (₱)	
NCR Metro Manila	1,105.71	47.96	204.14	8.88	2.21
1 Ilocos Region	648.44	26.73	186.74	7.14	2.21
2 Cagayan Valley	1.50	—	—	—	—
3 Central Luzon	618.33	18.67	78.06	2.46	2.00
4 Southern Tagalog	546.64	22.09	101.22	4.37	2.00
5 Bicol Region	581.30	20.72	94.71	4.08	1.56
6 Western Visayas	288.86	17.36	46.75	3.00	2.00
7 Central Visayas	676.52	23.96	109.84	4.21	2.36
8 Eastern Visayas	447.82	13.50	83.03	2.18	2.07
9 Western Mindanao	933.07	22.13	178.02	3.86	2.25
10 Northern Mindanao	587.09	22.09	85.56	3.67	2.23
11 Southern Mindanao	242.09	9.45	35.20	1.38	2.18
12 Central Mindanao	1,028.31	29.75	138.26	4.19	2.56
Philippines	632.60	23.16	111.91	4.29	2.12

* Legend : 1.0 — Daily;
2.0 — Weekly;
3.0 — Monthly.

Southern Tagalog, and Western Mindanao. All these regions had a per capita monthly consumption of greater than the national average consumption of 111.08 g.

The lowest average household consumption rate of 233.6 g/month was reported from Bicol, a figure very much below the national household average of 602 g/month. Consequently, the region's average per capita consumption was only 43.95 g/month.

Peanut Butter

An unidentified St. Louis physician is believed to have invented peanut butter in the 1870s; the first patent for its preparation was awarded to J.H. Kellogg of Battle Creek, Michigan. Since that time, the product has been enjoyed for its desirable flavor as sandwich spread and for its versatility as a snack and cooking ingredient (Lusas 1979).

Table 15. Monthly household and per capita quantity and expenditure consumption of fried peanuts in the Philippines.

Region	Household		Per Capita		Average Frequency of Consumption*
	Quantity (g)	Value (₱)	Quantity (g)	Value (₱)	
NCR Metro Manila	980.40	52.58	193.80	10.71	2.1
1 Ilocos Region	1,155.80	49.54	293.52	13.02	2.00
2 Cagayan Valley	616.00	22.80	85.94	3.03	1.80
3 Central Luzon	616.36	26.00	147.05	6.31	1.97
4 Southern Tagalog	737.61	26.83	147.96	5.24	1.84
5 Bicol Region	233.60	9.68	43.95	1.97	1.73
6 Western Visayas	359.89	12.48	81.25	2.00	2.15
7 Central Visayas	411.25	13.79	53.17	1.66	2.10
8 Eastern Visayas	242.00	12.17	49.74	2.34	2.12
9 Western Mindanao	832.97	25.94	142.54	4.08	2.06
10 Northern Mindanao	566.79	17.62	77.13	2.61	2.16
11 Southern Mindanao	321.79	14.13	56.08	2.67	3.07
12 Central Mindanao	486.97	15.71	66.77	2.39	2.00
Philippines	602.13	22.58	111.08	4.52	2.12

* Legend : 1.0 -- Daily;
 2.0 — Weekly;
 3.0 — Monthly.

The basic steps in peanut butter manufacturing are cleaning of shelled peanuts, roasting, blanching, blending of ingredients, grinding, cooling, and packaging (Rhee 1985). The typical formula includes 98% peanuts and 2% salt.

In the Philippines, peanut butter, besides being used as a bread spread, is also used as ingredient in cooking various dishes, such as steak out of goat's meat (Mediavillo 1985).

Based on the survey conducted, peanut butter was the most preferred among the products (Table 7).

The average monthly household consumption rate for peanut butter in the Philippines was 432.04 g valued at ₱27.10, or an equivalent of 73.20 g at the per capita level valued at ₱4.70 (Table 16).

Ilocos Region, Northern Mindanao, and Eastern Visayas were the three leading household consumers of peanut butter, with an above

Table 16. Monthly household and per capita quantity and expenditure consumption of peanut butter in the Philippines.

Region	Household		Per Capita		Average Frequency of Consumption*
	Quantity (g)	Value (₱)	Quantity (g)	Value (₱)	
NCR Metro Manila	404.97	27.93	62.11	4.43	2.59
1 Ilocos Region	641.50	20.02	109.11	5.06	2.67
2 Cagayan Valley	300.00	20.45	50.00	3.42	3.00
3 Central Luzon	351.94	26.61	68.82	4.47	2.94
4 Southern Tagalog	365.47	23.46	73.87	4.72	2.59
5 Bicol Region	313.26	23.44	58.60	4.69	2.44
6 Western Visayas	288.89	32.54	41.89	4.43	2.63
7 Central Visayas	462.40	22.18	67.56	3.67	2.54
8 Eastern Visayas	575.56	35.94	76.76	4.96	2.78
9 Western Mindanao	440.89	24.47	61.20	3.98	2.50
10 Northern Mindanao	600.00	32.69	76.54	4.70	2.59
11 Southern Mindanao	456.87	29.56	94.56	6.65	2.72
12 Central Mindanao	544.24	28.07	108.83	4.90	2.62
Philippines	432.04	27.10	73.20	4.70	2.61

* Legend : 1.0 — Daily;
2.0 — Weekly;
3.0 — Monthly.

average quantity consumption from 575 g to 641 g/month. The national average household consumption was only 432 g/month. At the per capita level, the top three consumers were Ilocos Region, Central Mindanao, and Southern Mindanao, whose respective demands ranged from 95 to 105 g/month.

Western Visayas was the lowest household and per capita consumer, reporting only 289 g and 42 g/month, respectively. The national average frequency of consumption was approximately twice a month (2.61).

Peanut Candies

The potential for using peanuts in confections is unlimited (Rhee 1985). In the United States, peanut ranks second to chocolate as flavoring ingredient for candies.

The average household and per capita consumption of peanut candies in the Philippines were 186.60 g and 27.90 g, respectively (Table 17).

Cagayan Valley, Southern Tagalog, Northern Mindanao, and Ilocos Region all had a household consumption of more than the national average consumption, while the rest of the regions consumed less.

In general, Filipinos were consuming peanut candies weekly (2.16).

Peanut as a Food Ingredient

Table 18 shows that no data for peanut as food ingredient were gathered from five regions. From the remaining eight regions, Central Luzon had the highest consumption while Western Visayas had the lowest. The national average household and per capita consumption was 174.04 g and 34.69 g/month, respectively. Peanut was not frequently used as a food ingredient with a monthly average of only 2.7.

Table 17. Monthly household and per capita quantity and expenditure consumption of peanut candies in the Philippines.

Region	Household		Per Capita		Average Frequency of Consumption*
	Quantity (g)	Value (₱)	Quantity (g)	Value (₱)	
NCR Metro Manila	100.00	13.33	10.00	1.78	2.33
1 Ilocos Region	279.37	6.64	32.85	1.26	2.30
2 Cagayan Valley	400.00	20.00	66.67	3.33	3.00
3 Central Luzon	101.25	7.83	17.87	1.14	2.00
4 Southern Tagalog	325.71	18.05	61.41	3.29	2.20
5 Bicol Region	85.70	12.35	11.02	3.04	1.85
6 Western Visayas	10.00	14.00	5.00	1.69	2.50
7 Central Visayas	10.00	2.08	1.67	0.46	2.00
8 Eastern Visayas	126.00	10.00	10.58	1.04	2.00
9 Western Mindanao	72.00	30.00	12.76	7.25	2.00
10 Northern Mindanao	294.37	15.34	46.06	2.20	2.22
11 Southern Mindanao	135.00	9.33	21.31	1.58	3.00
12 Central Mindanao	122.50	7.50	17.62	1.15	1.80
Philippines	186.60	12.44	27.90	2.34	2.16

* Legend: 1.0 - Daily; 2.0 - Weekly; 3.0 - Monthly.

Table 18. Monthly household and per capita quantity and expenditure consumption of peanut as food ingredient in the Philippines.

Region	Household		Per Capita		Average Frequency of Consumption*
	Quantity (g)	Value (₱)	Quantity (g)	Value (₱)	
NCR Metro Manila	175.29	9.61	26.88	1.53	2.86
1 Ilocos Region	113.67	5.70	17.83	1.08	2.60
2 Cagayan Valley	—	—	—	—	—
3 Central Luzon	371.67	4.25	116.59	0.64	3.00
4 Southern Tagalog	159.00	7.58	28.52	1.29	2.69
5 Bicol Region	217.63	9.24	42.39	1.98	2.48
6 Western Visayas	38.33	8.33	6.25	1.25	2.75
7 Central Visayas	53.33	3.17	11.67	0.53	3.00
8 Eastern Visayas	—	—	—	—	—
9 Western Mindanao	—	—	—	—	—
10 Northern Mindanao	146.25	3.13	30.24	0.42	2.60
11 Southern Mindanao	—	—	—	—	—
12 Central Mindanao	—	—	—	—	—
Philippines	174.04	7.71	34.69	1.40	2.66

* Legend : 1.0 -- Daily;
2.0 -- Weekly;
3.0 -- Monthly.

Likewise, the use of peanut in cakes was not popular in the six regions surveyed. NCR had the highest consumption for this peanut product as shown in Table 19.

Peanut Oil

Peanut oil, obtained from kernels, is pale yellow and has the characteristic color and flavor of peanuts (Rhee 1985). Normally, commercially refined peanut oil contains only traces of linolenic acid (Worthington and Holly 1967). Considering the trace levels of linolenic acid, peanut oil has excellent stability against oxidation and is considered a premium cooking and frying oil. Peanut oil is used mainly for edible purposes as a salad oil and in preparation of margarines, shortenings and mayonnaise, as well as for cooking and frying (Rhee 1985).

Table 19. Monthly household and per capita quantity and expenditure consumption of peanut in cakes in the Philippines.

Region	Household		Per Capita		Average Frequency of Consumption*
	Quantity (g)	Value (₱)	Quantity (g)	Value (₱)	
NCR Metro Manila	920.00	52.50	188.33	10.83	3.00
1 Ilocos Region	—	—	—	—	—
2 Cagayan Valley	—	—	—	—	—
3 Central Luzon	168.00	12.25	26.14	1.76	2.67
4 Southern Tagalog	—	—	—	—	—
5 Bicol Region	12.50	15.00	3.54	4.38	2.00
6 Western Visayas	170.00	20.60	17.14	2.51	2.67
7 Central Visayas	36.67	2.00	6.67	0.29	2.25
8 Eastern Visayas	—	—	—	—	—
9 Western Mindanao	140.50	17.00	19.42	1.63	2.80
10 Northern Mindanao	77.50	8.00	19.55	1.63	2.33
11 Southern Mindanao	—	—	—	—	—
12 Central Mindanao	—	—	—	—	—
Philippines	169.00	15.87	29.16	2.72	2.53

* Legend : 1.0 — Daily;
 2.0 — Weekly;
 3.0 — Monthly.

However, given the above favorable characteristics, the Philippine consumption rate for peanut oil was insignificant, since it is seldom used in the Filipino diet. Of the 1,126 respondents all over the Philippines, only six reported using peanut oil. This indicated that peanut oil was relatively unknown to Filipino consumers probably due to the greater popularity of coconut oil, which is used more throughout the country because of its availability and price.

Peanut Products in the Area

The various peanut products produced in each region surveyed are listed in Table 20. Further confirming the Filipinos' love for peanut butter, the said peanut product is produced nationwide, i.e., in all the 13 regions. In terms of production/manufacture of other peanut products in the various regions, fried peanut, roasted peanut, greaseless and brittle

Table 20. Peanut products manufactured by region in the Philippines.

Peanut Product	REGION												
	NCR	1	2	3	4	5	6	7	8	9	10	11	12
Peanut brittle	/	/		/									
Peanut butter	/	/	/	/	/	/	/	/	/	/	/	/	/
Peanut cake	/						/		/	/			
Coated peanut	/	/		/	/		/				/	/	/
Greaseless peanut	/	/	/	/	/		/	/		/	/	/	
Peanut kisses								/					
Panutsa		/			/	/							
Pastillas												/	/
Piñato								/	/		/	/	/
Roasted peanuts	/	/		/	/	/	/	/	/	/		/	/
Peanut turon													/
Turrone de mani				/							/		
Peanut cookies							/	/					
Peanut broas								/					
Peanut polvoron										/			
Fried peanut	/	/		/	/	/	/	/	/	/	/	/	/
Boiled peanut				/	/	/	/		/		/	/	/
Baked peanut							/						
Bandi													/
Candied peanut	/	/		/	/	/	/	/	/	/	/	/	/

peanuts come after peanut butter. On the other hand, some peanut products are area-specific or produced only in certain areas/regions, such as piñato, peanut turon, turrone de mani, broas, majareal and bandi which are particularly produced in Visayas and Mindanao. There is only one manufacturer of peanut broas in Cebu (Region 6), while peanut kisses can only be found in Bohol (Region 7).

Table 21 lists the brand names of commercially produced peanut products in the Philippines, while Appendix 3 gives the manufacturer's address per region. These include Lady's Choice, Lily's Yummy and Ludy's (for peanut butter), Nagaraya (for coated peanuts), Planters, Expo and Growers (for greaseless or roasted peanuts), and several local (regional) brands for candied peanuts.

Consumption Patterns of Various Food Items

The survey also determined the consumption patterns of 33 selected food items, after which a comparison with that of peanut was done. Table

Table 21. Brand names of peanut products produced/sold in each region.

Region	Brands
NCR Metro Manila	Lily's, Tobi, Yummy, Nagaraya, Ludy's Lady's Choice, Expo, Goldilocks, Growers, and Baliuag Products
1 Ilocos Region	Esmabe, Dega's, Expo, BSU Food Processing Center, Good Shepherd, G. & E, Expo, Growers, Nagaraya Lady's Choice, Keaton's, and Taiwan.
2 Cagayan Valley	
3 Central Luzon	Lily's Lady's Choice, Growers, Expo, Danny's, Dodong's, Chiqui's, Cita's and Allen's Sweets
4 Southern Tagalog	Crompton, Ludy's, Lily's, Lady's Choice, Planters, Nagaraya, Nena's, Growers, Expo, Holiday, Yummy, Lipton, and Tobi.
5 Bicol Region	Lesly, dela Rosa, and Gila
6 Western Visayas	Lady's Choice, Expo, Growers, and Metro Biscuits
7 Central Visayas	Coralandia, Lady's Choice, Joy's, Planters, Tobi, Bread & Butter, Candyman, and Growers
8 Eastern Visayas	Lady's Choice and homemade
9 Western Mindanao	Lady's Choice, Lily's, Joy's, Growers, Roy's, and Jef-Jef
10 Northern Mindanao	Lady's Choice, Noralyn's Iligan's, Goya, Lily's, Nagaraya, Royal, Growers, and Planters
11 Southern Mindanao	Lola Pureza's, Growers, Tobi, Lady's Choice, and Planters
12 Central Mindanao	Lady's Choice, Chedeng's, KJ's, Ding's, and Sonia's

22 summarizes the consumption of the selected food items at the national level, while Tables 23 to 55 tabulate those at the regional level.

Cereals

The main portion of a family's meal was rice at a per capita consumption rate of 7.70 kg/month. Rice, being the staple food of the Filipinos, was the most frequently consumed cereal, with a daily highest average of 1.00. Rice had the highest expenditures among the various food items included, with a monthly per capita average of ₱49.99, or a household expenditure of ₱299.64 (Table 23). Based on per capita consumption, Eastern Visayas had the highest, while Central Visayas the least.

Corn was popular in only four regions, namely: Ilocos Region, Central Visayas, Eastern Visayas, and Western Mindanao; all registering figures of more than the national average per capita consumption rate of

Table 22. Summary of monthly average household and per capita consumption and expenditure for selected food items in the Philippines.

Food Items	Household		Per Capita		Average Frequency of Consumption*
	Quantity	Value (₱)	Quantity	Value (₱)	
Cereals					
Rice (kg)	47.01	299.64	7.70	49.99	1.00
Corn (kg)	7.47	38.33	1.19	6.39	3.51
Bread (kg)	3.75	92.9	0.64	16.21	1.46
Meat/Poultry/Fish					
Pork (kg)	5.53	175.12	0.98	31.40	2.05
Beef (kg)	3.65	128.13	0.63	22.09	2.56
Chicken (kg)	3.52	105.53	0.63	18.76	2.39
Processed Meat (kg)	2.57	64.98	0.44	11.15	2.83
Eggs (pcs)	36.33	55.36	6.05	9.15	1.82
Fish (kg)	10.04	160.84	1.69	27.99	1.39
Vegetables/Fruits					
Vegetables (kg)	9.67	79.36	1.76	14.07	1.26
Fruits (kg)	6.54	68.40	1.14	11.87	1.67
Milk					
Powdered (kg)	1.24	91.92	0.22	16.10	1.93
Evaporated (li)	2.18	45.92	0.37	7.76	2.57
Condensed (li)	1.16	38.46	0.21	6.54	3.23 ¹ / ₂
Fresh (li)	4.80	31.20	0.69	4.64	3.09
Soybean (ml)	275.27	19.95	38.43	3.07	3.82
Drinks					
Chocolate (g)	562.69	49.87	92.50	8.11	2.68
Coffee (g)	113.00	43.09	19.00	7.69	1.66
Tea (g)	289.30	23.90	43.36	3.80	3.27
Softdrinks (li)	5.06	52.12	0.92	9.37	1.98
Fruit juice (ml)	892.66	40.63	147.64	6.72	2.39
Beer/liquor (li)	5.20	50.02	0.98	9.16	3.45
Dairy Products/Spread					
Cheese (g)	428.03	31.92	78.85	5.88	2.74
Yoghurt (ml)	708.75	25.71	95.00	4.06	3.85
Yakult (li)	1.49	25.94	0.24	4.26	3.65
Butter (g)	523.94	28.74	85.50	4.69	2.61
Ice cream (kg)	2.04	61.32	0.33	10.58	3.08
Margarine (g)	369.89	17.97	65.25	3.17	2.90
Spread (g)	445.75	40.03	76.50	6.87	2.26
Rootcrops					
Cassava (kg)	1.52	11.81	0.27	2.01	3.25
Sweet potato (kg)	1.69	13.55	0.31	2.46	3.08
Candies (g)	244.62	19.33	42.90	3.39	2.46
Snack Items (kg)	1.68	47.25	0.28	8.29	2.33

Table 22. Continued.

Food items	Household		Per Capita		Average Frequency of Consumption
	Quantity (kg)	Value (P)	Quantity (kg)	Value (P)	
Peanut Products					
Raw (g)	1,065.09	27.42	182.95	4.36	2.23
Boiled (g)	831.40	20.69	153.36	3.63	2.20
Roasted (g)	632.60	23.16	111.91	4.29	2.12
Fried (g)	602.13	22.58	111.08	4.52	2.12
Peanut butter (g)	432.04	27.10	73.20	4.70	2.61
In Candies (g)	186.60	12.44	27.90	2.34	2.16
In Cakes (g)	169.00	15.87	29.16	2.72	2.53
As food ingredient (g)	174.04	7.71	34.69	1.40	2.66

Table 23. Monthly average household and per capita consumption and expenditure for rice in the Philippines.

Region	Household		Per Capita		Average Frequency of Consumption*
	Quantity (kg)	Value (P)	Quantity (kg)	Value (P)	
1. NCR Metro Manila	42.12	295.00	6.36	44.61	1.05
2. Ilocos Region	48.08	268.15	8.52	46.72	1.02
3. Cagayan Valley	44.50	292.43	9.97	45.84	1.00
4. Central Luzon	35.34	253.24	6.92	50.55	1.00
5. Southern Tagalog	42.30	259.38	7.12	48.98	1.03
6. Bicol Region	54.69	323.77	8.64	51.77	1.03
7. Western Visayas	60.50	372.95	8.65	53.51	1.00
8. Central Visayas	42.23	242.84	7.18	43.75	1.02
9. Eastern Visayas	53.77	307.15	10.05	56.60	1.02
10. Western Mindanao	54.52	364.60	7.98	53.71	1.01
11. Northern Mindanao	48.63	311.06	7.43	47.50	1.00
12. Southern Mindanao	38.81	294.47	6.62	46.80	1.04
13. Central Mindanao	51.15	362.44	7.72	55.87	1.00
Philippines	47.01	299.64	7.70	49.99	1.00

* Legend : 1.0 — Daily;
 2.0 — Weekly;
 3.0 — Monthly;
 4.0 — Rarely/Almost Never.

1.19 kg/month (Table 24). In general, corn was seldom eaten with an average frequency of 3.51.

Bread, almost eaten daily (1.46), ranked number four in terms of frequency of consumption. Southern Mindanao and Eastern Visayas were the top and the least household and per capita consumers at 10.03 kg and 1.29 kg, and 0.705 kg and 0.169 kg, respectively (Table 25).

Meat, Poultry, and Fish

Among the meat products, pork was consumed the highest at the per capita level, with a rate of 0.98 kg/month; followed by beef and chicken both at 0.63 kg/month, and processed meat at 0.44 kg/month. Based

Table 24. Monthly household and per capita consumption and expenditure for corn in the Philippines.

Region	Household		Per Capita		Average Frequency of Consumption*
	Quantity (kg)	Value (₱)	Quantity (kg)	Value (₱)	
NCR Metro Manila	1.80	14.75	0.23	2.24	3.60
1 Ilocos Region	10.82	41.37	1.48	6.30	3.35
2 Cagayan Valley	3.75	26.80	0.51	3.83	3.53
3 Central Luzon	—	21.30	—	4.28	3.64
4 Southern Tagalog	3.29	18.67	0.38	3.25	3.74
5 Bicol Region	2.00	42.05	0.30	6.92	3.23
6 Western Visayas	1.33	7.79	0.14	1.03	3.60
7 Central Visayas	16.00	67.64	2.75	11.20	3.29
8 Eastern Visayas	33.00	125.29	5.30	20.38	3.74
9 Western Mindanao	9.50	40.50	3.33	13.53	3.38
10 Northern Mindanao	5.67	44.00	0.99	5.79	3.85
11 Southern Mindanao	—	—	—	—	3.00
12 Central Mindanao	4.00	25.00	0.67	4.17	3.44
Philippines	7.47	38.33	1.19	6.39	3.51

- * Legend : 1.0 — Daily;
 2.0 — Weekly;
 3.0 — Monthly;
 4.0 — Rarely/Almost Never.

Table 25. Monthly household and per capita consumption and expenditure for bread in the Philippines.

Region	Household		Per Capita		Average Frequency of Consumption*
	Quantity (g)	Value (₱)	Quantity (g)	Value (₱)	
NCR Metro Manila	4,258.20	114.32	658.00	18.43	1.12
1 Ilocos Region	4,253.50	98.09	794.30	19.02	1.49
2 Cagayan Valley	3,061.30	76.87	506.00	12.40	1.18
3 Central Luzon	5,036.05	69.93	1,019.90	13.10	1.70
4 Southern Tagalog	3,245.35	125.63	619.72	23.99	1.37
5 Bicol Region	1,645.00	40.95	274.95	6.14	1.68
6 Western Visayas	3,447.45	90.78	554.60	13.10	1.38
7 Central Visayas	5,019.60	110.38	787.25	18.50	1.27
8 Eastern Visayas	705.00	59.27	169.20	11.17	1.50
9 Western Mindanao	3,036.20	78.02	502.90	12.39	1.39
10 Northern Mindanao	2,968.05	72.64	432.40	11.54	1.57
11 Southern Mindanao	10,027.45	148.62	1,292.50	23.69	1.48
12 Central Mindanao	6,815.00	98.78	1,015.20	17.47	1.48
Philippines	3,751.30	92.91	639.40	16.31	1.46

- * Legend : 1.0 — Daily;
 2.0 — Weekly;
 3.0 — Monthly.
 4.0 — Rarely/Almost Never .

Note: One loaf of bread = 230 g.

on the frequency of use, the above food items ranked 10, 15, 13 and 20, respectively. The top per capita consumers of pork were the people from Central Mindanao — 1.54 kg/month (Table 26); Southern Tagalog for beef — 1.10 kg/month (Table 27); Central Luzon for chicken — 0.91 kg/month (Table 28), and Metro Manila for processed meat — 0.76 kg/month (Table 29). Those from Western Visayas consumed the least pork (0.68 kg/month); from Bicol, the least chicken (0.35 kg/month); from Central Mindanao, the least processed meat (0.20 kg/month), while those from Metro Manila, the least beef (0.41 kg/month).

The people from Northern Mindanao consumed the most number of eggs per month at a per capita rate of 8.14 pieces, while those from Bicol consumed the least at a per capita rate of only 2.43 pieces (Table 30). The national average per capita consumption rate was 6.05 eggs/month.

Table 26. Monthly household and per capita consumption and expenditure for pork in the Philippines.

Region	Household		Per Capita		Average Frequency of Consumption*
	Quantity (kg)	Value (₱)	Quantity (kg)	Value (₱)	
NCR Metro Manila	6.35	209.50	0.91	31.72	1.70
1 Ilocos Region	4.06	146.89	0.89	27.88	2.35
2 Cagayan Valley	7.90	210.42	1.31	34.67	1.73
3 Central Luzon	4.00	152.46	0.82	30.69	2.17
4 Southern Tagalog	5.65	239.68	1.09	45.57	1.98
5 Bicol Region	4.48	95.65	0.73	15.89	2.66
6 Western Visayas	5.00	147.93	0.68	20.74	1.98
7 Central Visayas	5.85	181.15	1.02	38.31	1.73
8 Eastern Visayas	3.86	110.39	0.80	22.02	2.11
9 Western Mindanao	5.97	146.36	0.97	23.00	2.24
10 Northern Mindanao	6.60	170.71	1.03	26.70	1.78
11 Southern Mindanao	5.00	208.62	0.82	30.93	2.13
12 Central Mindanao	8.00	214.76	1.54	40.78	1.90
Philippines	5.53	175.12	0.98	31.40	2.05

* Legend: 1.0 — Daily; 2.0 — Weekly; 3.0 — Monthly; 4.0 — Rarely/Almost Never.

Table 27. Monthly household and per capita consumption and expenditure for beef in the Philippines.

Region	Household		Per Capita		Average Frequency of Consumption*
	Quantity (kg)	Value (₱)	Quantity (kg)	Value (₱)	
NCR Metro Manila	2.74	139.61	0.41	23.05	2.18
1 Ilocos Region	6.68	99.81	0.91	19.17	2.81
2 Cagayan Valley	3.09	97.00	0.52	15.11	2.38
3 Central Luzon	2.89	139.78	0.60	27.26	2.82
4 Southern Tagalog	5.49	138.95	1.10	27.93	2.00
5 Bicol Region	2.85	81.50	0.43	12.19	3.01
6 Western Visayas	3.73	107.23	0.56	17.28	2.10
7 Central Visayas	3.68	147.08	0.63	25.40	2.15
8 Eastern Visayas	2.40	71.65	0.46	14.26	2.84
9 Western Mindanao	3.38	130.07	0.52	19.51	2.37
10 Northern Mindanao	5.89	192.57	0.87	27.10	2.37
11 Southern Mindanao	2.20	95.54	0.42	16.78	2.82

Table 27. Continued.

Region	Household		Per Capita		Average Frequency of Consumption*
	Quantity (kg)	Value (P)	Quantity (kg)	Value (P)	
12 Central Mindanao	4.18	118.71	0.69	19.78	2.34
Philippines	3.65	128.13	0.63	22.09	2.56

* Legend: 1.0 — Daily; 2.0 — Weekly; 3.0 — Monthly; 4.0 — Rarely/Almost Never

Table 28. Monthly household and per capita consumption and expenditure for chicken in the Philippines.

Region	Household		Per Capita		Average Frequency of Consumption*
	Quantity (kg)	Value (P)	Quantity (kg)	Value (P)	
NCR Metro Manila	4.35	183.07	0.67	29.62	1.82
1 Ilocos Region	2.76	75.96	0.58	14.95	2.52
2 Cagayan Valley	3.38	106.77	0.57	16.39	2.26
3 Central Luzon	4.29	119.90	0.91	22.97	2.34
4 Southern Tagalog	3.98	133.03	0.74	26.21	2.26
5 Bicol Region	2.21	53.76	0.35	8.73	2.62
6 Western Visayas	3.90	111.69	0.59	17.18	2.38
7 Central Visayas	3.14	117.86	0.54	20.02	2.43
8 Eastern Visayas	2.67	57.28	0.59	13.66	2.64
9 Western Mindanao	2.61	85.04	0.45	13.72	2.51
10 Northern Mindanao	4.86	116.32	0.80	18.44	2.51
11 Southern Mindanao	2.27	112.62	0.54	18.15	2.54
12 Central Mindanao	2.93	100.53	0.47	16.06	2.41
Philippines	3.52	105.53	0.63	18.76	2.39

* Legend : 1.0 — Daily;
2.0 — Weekly;
3.0 — Monthly;
4.0 — Rarely/Almost Never.

Table 29. Monthly household and per capita consumption and expenditure for processed meat in the Philippines.

Region	Household		Per Capita		Average Frequency of Consumption*
	Quantity (kg)	Value (₱)	Quantity (kg)	Value (₱)	
NCR Metro Manila	4.73	122.00	0.76	20.04	2.25
1 Ilocos Region	2.33	71.81	0.43	13.94	2.88
2 Cagayan Valley	2.60	82.11	0.46	12.88	2.62
3 Central Luzon	2.36	53.75	0.48	10.77	3.06
4 Southern Tagalog	1.93	68.50	0.37	13.12	2.78
5 Bicol Region	—	28.50	—	5.01	4.48
6 Western Visayas	2.00	58.57	0.23	7.83	2.81
7 Central Visayas	4.00	62.25	0.56	10.22	2.65
8 Eastern Visayas	1.83	59.82	0.28	9.42	3.21
9 Western Mindanao	1.91	39.92	0.30	6.23	2.91
10 Northern Mindanao	2.92	60.73	0.43	9.16	2.55
11 Southern Mindanao	2.00	57.25	0.25	7.47	2.52
12 Central Mindanao	1.75	70.38	0.20	10.74	3.12
Philippines	2.57	64.98	0.44	11.15	2.83

* Legend : 1.0 — Daily;
 2.0 — Weekly;
 3.0 — Monthly;
 4.0 — Rarely/Almost Never.

Table 30. Monthly household and per capita consumption and expenditure for fresh eggs in the Philippines.

Region	Household		Per Capita		Average Frequency of Consumption*
	Quantity (pcs)	Value (₱)	Quantity (pcs)	Value (₱)	
NCR Metro Manila	41.37	90.98	5.72	14.27	1.80
1 Ilocos Region	39.03	48.45	7.51	8.43	1.61
2 Cagayan Valley	40.00	62.90	6.89	10.28	1.52
3 Central Luzon	43.04	47.70	7.26	8.81	1.72
4 Southern Tagalog	33.55	53.02	6.37	9.75	1.67
5 Bicol Region	14.00	71.29	2.43	12.24	1.99
6 Western Visayas	27.62	44.27	3.90	6.58	1.99
7 Central Visayas	29.10	46.45	5.34	7.67	1.77
8 Eastern Visayas	22.13	32.59	4.14	6.26	2.19
9 Western Mindanao	30.73	48.35	4.97	7.67	1.78

Table 30. Continued.

Region	Household		Per Capita		Average Frequency of Consumption
	Quantity (kg)	Value (P)	Quantity (kg)	Value (P)	
10 Northern Mindanao	61.42	68.88	8.14	9.45	1.74
11 Southern Mindanao	34.00	66.26	6.25	10.21	1.92
12 Central Mindanao	30.59	51.33	4.50	7.46	2.02
Philippines	36.33	55.36	6.05	9.15	1.82

- * Legend : 1.0 — Daily;
 2.0 — Weekly;
 3.0 — Monthly;
 4.0 — Rarely/Almost Never.

Table 31. Monthly household and per capita consumption and expenditure for fish in the Philippines.

Region	Household		Per Capita		Average Frequency of Consumption*
	Quantity (kg)	Value (P)	Quantity (kg)	Value (P)	
NCR Metro Manila	9.87	284.17	1.57	42.12	1.72
1 Ilocos Region	8.98	103.67	1.33	18.80	1.53
2 Cagayan Valley	3.23	87.54	0.55	13.60	1.88
3 Central Luzon	7.00	122.14	1.50	24.21	1.55
4 Southern Tagalog	11.78	206.21	2.33	41.47	1.27
5 Bicol Region	9.00	107.89	1.46	17.94	1.24
6 Western Visayas	24.43	219.27	3.16	30.51	1.16
7 Central Visayas	8.94	177.84	1.74	33.31	1.44
8 Eastern Visayas	13.84	124.78	2.02	23.85	1.26
9 Western Mindanao	11.48	161.92	1.96	23.00	1.21
10 Northern Mindanao	8.17	122.04	1.12	18.80	1.44
11 Southern Mindanao	6.43	171.82	1.47	32.45	1.89
12 Central Mindanao	12.33	267.95	1.49	36.36	1.25
Philippines	10.04	160.84	1.69	27.99	1.39

- * Legend : 1.0 — Daily;
 2.0 — Weekly;
 3.0 — Monthly;
 4.0 — Rarely/Almost Never.

Table 32. Monthly household and per capita consumption and expenditure for vegetables in the Philippines.

Region	Household		Per Capita		Average Frequency of Consumption*
	Quantity (kg)	Value (₱)	Quantity (kg)	Value (₱)	
NCR Metro Manila	9.12	124.08	1.56	20.21	1.63
1 Ilocos Region	9.56	45.50	1.17	6.94	1.19
2 Cagayan Valley	15.75	84.15	2.84	12.73	1.04
3 Central Luzon	8.80	75.08	1.64	14.35	1.34
4 Southern Tagalog	19.00	101.09	2.84	20.39	1.24
5 Bicol Region	9.69	49.26	1.53	8.18	1.12
6 Western Visayas	6.00	53.70	0.51	8.42	1.18
7 Central Visayas	9.67	75.38	2.14	12.94	1.43
8 Eastern Visayas	4.50	49.21	0.77	10.58	1.48
9 Western Mindanao	7.56	73.43	1.91	11.46	1.10
10 Northern Mindanao	8.59	91.42	1.27	15.27	1.28
11 Southern Mindanao	8.50	85.00	1.40	13.10	1.27
12 Central Mindanao	7.75	99.00	0.93	15.18	1.12
Philippines	9.67	79.36	1.76	14.07	1.26

- * Legend : 1.0 — Daily;
 2.0 — Weekly;
 3.0 — Monthly;
 4.0 — Rarely/Almost Never.

Fish ranked third as the most frequently eaten food; those from Western Visayas had the biggest per capita consumption while those from Northern Mindanao had the least consumption at 1.12 kg/month (Table 31). Since fish is relatively cheaper than beef, pork and poultry, fish was third to rice in terms of per capita demand (1.69 kg/month). This indicates that fish provides a considerable portion of protein to the Filipino diet.

Vegetables and Fruits

Filipinos eat a lot of vegetables, next to rice, with a per capita consumption rate of 1.76% kg/month. Vegetable is included in the Filipino meal everyday as evident in the high consumption frequency (1.26), second to rice. People from Southern Tagalog and Cagayan Valley (both at 2.84 kg/month) ate the most vegetables, while those from

Western Visayas ate the least at 0.51 kg/month (Table 32).

Fruits ranked sixth in the frequency of consumption (1.67) at a per capita rate of 1.14 kg/month. Those from Metro Manila were the highest consumers at 1.69 kg/month while those from Central Mindanao consumed the lowest at only 0.27 kg/month (Table 33).

Milk

The study showed that among the different types of milk, the powdered form was the most frequently used (1.93) compared to evaporated (2.57), fresh milk (3.09), and condensed milk (3.23).

Table 33. Monthly household and per capita consumption and expenditure for fruits in the Philippines.

Region	Household		Per Capita		Average Frequency of Consumption*
	Quantity (kg)	Value (₱)	Quantity (kg)	Value (₱)	
NCR Metro Manila	10.14	132.25	1.69	19.87	1.44
1 Ilocos Region	6.75	32.31	1.00	7.04	1.84
2 Cagayan Valley	6.00	54.82	0.88	8.23	1.71
3 Central Luzon	6.80	47.62	1.54	9.44	1.80
4 Southern Tagalog	6.65	91.92	1.55	17.48	1.61
5 Bicol Region	9.00	66.67	1.29	10.53	1.89
6 Western Visayas	5.00	61.00	0.45	8.89	1.54
7 Central Visayas	6.33	79.12	1.17	12.75	1.57
8 Eastern Visayas	4.67	36.56	0.67	8.32	1.88
9 Western Mindanao	2.75	62.18	0.38	10.24	1.45
10 Northern Mindanao	7.19	61.06	0.97	9.67	1.59
11 Southern Mindanao	4.00	74.44	1.33	11.25	1.50
12 Central Mindanao	2.50	79.85	0.27	12.83	1.79
Philippines	6.54	68.40	1.14	11.87	1.67

- * Legend : 1.0 — Daily;
 2.0 — Weekly;
 3.0 — Monthly;
 4.0 — Rarely/Almost Never.

Evidently, Filipinos, on the average, drink milk once a week (2.0) to even once a month (3.0) or less, suggesting that milk is lacking in the Filipino diet. This is primarily because the country's dairy industry is underdeveloped that domestic processors still rely heavily on imported milk (Phil. Daily Inquirer 1987). Thus, the price of milk in the Philippines is expensive. The Filipino consumers spend the most for powdered milk (₱16.10/month), usually of the filled or nonfat dry milk type, than evaporated milk (₱7.76/month), condensed milk (₱6.54/month, 213.0 ml) and fresh milk ₱4.64/month (0.69 li.).

Respondents from Eastern Visayas and Bicol were the top two consumers of both evaporated and condensed milk (Tables 34 and 35) respectively. Those from Bicol consumed more powdered milk at 661.50 g/month (Table 36) while respondents from Northern Mindanao consumed more fresh milk at 1.79 li/month (Table 37).

Table 34. Monthly household and per capita consumption and expenditure for evaporated milk in the Philippines.

Region	Household		Per Capita		Average Frequency of Consumption*
	Quantity (ml)	Value (₱)	Quantity (ml)	Value (₱)	
NCR Metro Manila	2,442.00	35.66	395.90	6.88	2.56
1 Ilocos Region	580.90	36.09	99.90	5.78	2.55
2 Cagayan Valley	—	—	—	—	2.83
3 Central Luzon	1,428.20	39.40	310.80	8.86	2.76
4 Southern Tagalog	2,882.30	29.21	362.60	5.76	2.84
5 Bicol Region	3,537.20	80.42	558.70	12.47	2.49
6 Western Visayas	1,378.50	24.69	318.20	5.61	2.27
7 Central Visayas	1,184.00	48.50	214.60	6.32	2.47
8 Eastern Visayas	4,018.20	75.19	599.40	11.82	2.52
9 Western Mindanao	2,393.60	48.82	421.80	8.21	1.79
10 Northern Mindanao	2,382.80	45.12	340.40	6.43	2.98
11 Southern Mindanao	740.00	18.00	62.90	2.76	2.48
12 Central Mindanao	1,850.00	45.25	299.70	7.24	2.42
Philippines	2,179.30	45.92	366.30	7.76	2.57

- * Legend : 1.0 — Daily;
 2.0 — Weekly;
 3.0 — Monthly;
 4.0 — Rarely/Almost Never.

Note: One can of evaporated milk = 370 ml.

Table 35. Monthly household and per capita consumption and expenditure for condensed milk in the Philippines.

Region	Household		Per Capita		Average Frequency of Consumption*
	Quantity (ml)	Value (₱)	Quantity (ml)	Value (₱)	
NCR Metro Manila	1,689.00	21.50	270.00	3.41	3.24
1 Ilocos Region	2,211.00	26.48	177.00	4.68	3.19
2 Cagayan Valley	320.00	12.00	70.35	1.86	3.24
3 Central Luzon	1,020.00	31.87	198.00	6.56	3.37
4 Southern Tagalog	924.00	25.84	132.00	4.89	3.38
5 Bicol Region	2,274.00	94.30	384.00	16.40	2.86
6 Western Visayas	300.00	32.00	45.00	2.91	3.09
7 Central Visayas	375.00	14.26	81.00	2.62	3.37
8 Eastern Visayas	2,100.00	44.57	585.00	7.38	3.30
9 Western Mindanao	1,299.00	49.65	222.00	8.37	2.82
10 Northern Mindanao	567.00	17.64	78.00	2.42	3.50
11 Southern Mindanao	1,050.00	33.25	141.00	4.66	2.77
12 Central Mindanao	300.00	8.90	33.00	0.86	3.39
Philippines	1,158.00	38.46	213.00	6.54	3.23

- * Legend : 1.0 — Daily;
 2.0 — Weekly;
 3.0 — Monthly;
 4.0 — Rarely/Almost Never

Note: One can of condensed milk = 300 ml.

Table 36. Monthly household and per capita consumption and expenditure for powdered milk in the Philippines.

Region	Household		Per Capita		Average Frequency of Consumption*
	Quantity (g)	Value (₱)	Quantity (g)	Value (₱)	
NCR Metro Manila	1,575.00	184.89	234.50	26.47	1.81
1 Ilocos Region	1,414.00	63.10	315.00	15.17	1.56
2 Cagayan Valley	600.00	88.00	265.16	12.77	1.45
3 Central Luzon	875.00	55.16	213.50	13.10	2.36
4 Southern Tagalog	728.00	101.62	168.00	20.28	1.95
5 Bicol Region	4,980.00	109.47	661.50	17.62	2.26
6 Western Visayas	2,334.50	113.95	413.00	16.74	1.73
7 Central Visayas	560.00	127.77	101.50	23.35	1.92

Region	Household		Per Capita		Average Frequency of Consumption
	Quantity (kg)	Value (P)	Quantity (kg)	Value (P)	
8 Eastern Visayas	826.00	44.41	196.00	8.31	1.88
9 Western Mindanao	679.00	69.22	112.00	11.47	1.76
10 Northern Mindanao	686.00	78.82	94.50	10.85	2.03
11 Southern Mindanao	612.50	92.14	98.00	14.79	1.74
12 Central Mindanao	805.00	131.32	115.50	20.99	1.88
Philippines	1,239.00	91.92	217.00	16.10	1.93

* Legend : 1.0 — Daily;
 2.0 — Weekly;
 3.0 — Monthly;
 4.0 — Rarely/Almost Never.

Note: One can of powdered milk = 350 g.

Table 37. Monthly household and per capita consumption and expenditure for fresh milk in the Philippines.

Region	Household		Per Capita		Average Frequency of Consumption*
	Quantity (li)	Value (P)	Quantity (li)	Value (P)	
NCR Metro Manila	2.67	6.00	0.41	0.60	3.57
1 Ilocos Region	1.00	20.00	0.19	2.22	3.19
2 Cagayan Valley	—	—	—	—	4.00
3 Central Luzon	1.00	17.90	0.15	3.60	3.14
4 Southern Tagalog	—	25.62	—	3.44	3.58
5 Bicol Region	2.00	35.00	0.32	5.41	1.89
6 Western Visayas	1.00	8.95	0.12	1.12	3.39
7 Central Visayas	2.00	10.15	0.50	2.33	2.98
8 Eastern Visayas	1.00	17.50	0.14	3.84	3.58
9 Western Mindanao	2.00	26.75	0.40	2.78	3.10
10 Northern Mindanao	13.50	51.37	1.79	7.46	2.51
11 Southern Mindanao	—	20.00	—	2.86	3.23
12 Central Mindanao	—	5.00	—	0.33	2.86
Philippines	4.80	31.20	0.69	4.64	3.09

* Legend : 1.0 — Daily;
 2.0 — Weekly;
 3.0 — Monthly;
 4.0 — Rarely/Almost Never.

According to Dr. Franklin B. Aglibut, Director of the Dairy Training and Research Institute (DTRI) of the University of the Philippines at Los Baños (UPLB), importation of milk and dairy products in the Philippines accounted for about 98% of the domestic requirement, leaving only 2% contributed by local producers (Phil. Dairy Inquirer 1987).

To help augment this condition, soymilk was developed and is sold commercially (being marketed as "Philsoy") at the Institute of Food Science and Technology (IFST) at UPLB, while Nestle (Phils), Inc. manufactures VITA, a commercial powdered soymilk. However, the acceptability of these dairy substitutes to the Filipino diet remains a problem, as shown by the very low consumption frequency of 3.82 (rarely/almost never) and a per capita demand of only 47.2 ml/month for soymilk (Table 38). Chocolate drink fared a little better based on a higher consumption frequency of 2.68 (Table 39), although the quantity consumed did not differ much from that of soymilk at 92.5 g/month.

Table 38. Monthly household and per capita consumption and expenditure for soymilk in the Philippines.

Region	Household		Per Capita		Average Frequency of Consumption*
	Quantity (ml)	Value (₱)	Quantity (ml)	Value (₱)	
NCR Metro Manila	210.0	6.00	21.0	0.60	3.68
1 Ilocos Region	—	15.00	—	1.67	3.78
2 Cagayan Valley	—	—	—	—	4.00
3 Central Luzon	315.0	22.25	44.1	4.42	3.84
4 Southern Tagalog	—	—	—	—	3.93
5 Bicol Region	—	11.00	—	1.45	3.88
6 Western Visayas	420.0	55.00	52.5	6.88	3.74
7 Central Visayas	—	12.00	—	2.00	3.67
8 Eastern Visayas	—	20.00	—	5.00	3.92
9 Western Mindanao	420.0	23.67	84.0	4.00	3.59
10 Northern Mindanao	336.0	20.33	46.2	2.72	3.74
11 Southern Mindanao	—	—	—	—	3.82
12 Central Mindanao	—	12.00	—	0.80	3.64
Philippines	306.4	19.95	47.2	3.07	3.82

* Legend : 1.0 — Daily;
 2.0 — Weekly;
 3.0 — Monthly;
 4.0 — Rarely/Almost Never

Note: One bottle of soymilk = 205 ml.

Table 39. Monthly household and per capita consumption and expenditure for chocolate in the Philippines.

Region	Household		Per Capita		Average Frequency of Consumption*
	Quantity (g)	Value (₱)	Quantity (g)	Value (₱)	
NCR Metro Manila	455.0	117.10	77.5	16.89	2.44
1 Ilocos Region	800.0	55.62	182.5	11.60	1.83
2 Cagayan Valley	889.9	56.56	126.5	8.04	2.06
3 Central Luzon	530.0	45.45	110.0	10.00	3.08
4 Southern Tagalog	542.5	57.63	155.0	10.30	2.69
5 Bicol Region	292.5	32.55	52.5	5.67	3.36
6 Western Visayas	750.0	75.60	107.5	10.28	2.41
7 Central Visayas	465.0	37.62	77.5	6.36	2.31
8 Eastern Visayas	357.5	25.12	72.5	4.64	2.88
9 Western Mindanao	500.0	35.30	95.0	6.47	2.44
10 Northern Mindanao	482.5	42.35	65.0	6.01	2.64
11 Southern Mindanao	500.0	30.29	62.5	4.02	2.32
12 Central Mindanao	750.0	88.38	77.5	10.24	2.81
Philippines	562.7	49.87	92.5	8.11	2.68

* Legend : 1.0 — Daily;
 2.0 — Weekly;
 3.0 — Monthly;
 4.0 — Rarely/Almost Never.

Note: One can of chocolate drink = 250 g.

Thus, the potential of peanut milk was being tapped locally (Rubico et al. 1987, Encarnacion and Rillo 1982) and abroad (Swaminathan and Parpia 1967, Chandrasethara, et al. 1971, Schmidt and Bates 1976), as a supplement or substitute for cow's and soybean milk.

Beverages

Filipinos prefer coffee over tea, then softdrinks over fruit juice. Coffee ranked No. 5 (1.66) and softdrink No. 9 (1.98) based on the frequency of consumption. On the average, around 921.93 ml (0.92 li) of softdrink per month were individually consumed compared to only 147.60 ml (0.15 li) of fruit juice. The consumption by region for these food items are presented in more detail in Tables 40 to 43. The average per capita consumption of beer/liquor was 0.98 li bottles/month; it was drunk rarely (3.45) primarily due to its high price (Table 44).

Table 40. Monthly household and per capita quantity and expenditure consumption of coffee in the Philippines.

Region	Household		Per Capita		Average Frequency of Consumption*
	Quantity (g)	Value (₱)	Quantity (g)	Value (₱)	
NCR Metro Manila	110.50	69.45	16.50	9.94	1.98
1 Ilocos	131.0	47.81	25.0	8.30	1.32
2 Cagayan Valley	136.50	52.05	25.3	8.40	1.35
3 Central Luzon	241.0	44.11	37.50	9.14	1.50
4 Southern Tagalog	117.50	46.72	23.50	9.07	1.63
5 Bicol Region	96.50	47.12	16.0	8.25	1.25
6 Western Visayas	50.0	36.38	7.0	4.63	1.84
7 Central Visayas	65.0	30.87	11.0	5.56	2.14
8 Eastern Visayas	72.50	28.73	14.0	5.29	1.91
9 Western Mindanao	116.0	32.64	18.50	5.82	1.68
10 Northern Mindanao	105.0	48.06	13.5	7.15	1.70
11 Southern Mindanao	100.0	32.88	13.5	4.60	2.02
12 Central Mindanao	110.5	63.56	19.0	10.34	1.62
Philippines	113.0	43.09	19.0	7.69	1.66

- * Legend : 1.0 — Daily;
 2.0 — Weekly;
 3.0 — Monthly.
 4.0 — Rarely/Almost Never.

Note: One tumbler of coffee = 30 g.

Table 41. Monthly household and per capita quantity and expenditure for tea in the Philippines.

Region	Household		Per Capita		Average Frequency of Consumption*
	Quantity (g)	Value (₱)	Quantity (g)	Value (₱)	
NCR Metro Manila	192.00	88.00	24.96	13.90	3.04
1 Ilocos	192.00	20.00	38.40	11.50	3.73
2 Cagayan Valley	—	—	—	—	3.38
3 Central Luzon	704.64	12.50	122.88	2.68	3.53
4 Southern Tagalog	—	14.50	—	2.49	3.59
5 Bicol Region	192.00	28.75	24.96	4.35	2.74
6 Western Visayas	192.00	75.00	23.04	9.38	3.18
7 Central Visayas	—	22.67	—	4.33	3.19

Table 41. Continued.

Region	Household		Per Capita		Average Frequency of Consumption
	Quantity (kg)	Value (₱)	Quantity (kg)	Value (₱)	
8 Eastern Visayas	—	14.00	—	2.38	3.81
9 Western Mindanao	576.00	14.11	96.96	1.83	2.78
10 Northern Mindanao	240.00	40.86	26.88	3.76	3.28
11 Southern Mindanao	192.00	13.25	23.04	1.61	2.81
12 Central Mindanao	—	5.50	—	0.60	2.94
Philippines	310.08	23.90	49.30	3.80	3.27

- * Legend : 1.0 — Daily;
 2.0 — Weekly;
 3.0 — Monthly.
 4.0 — Rarely/Almost Never.

Note: One pack of tea = 96 g (48 bags); one tea bag = 2 g.

Table 42. Monthly household and per capita consumption and expenditure for softdrink in the Philippines.

Region	Household		Per Capita		Average Frequency of Consumption
	Quantity (kg)	Value (₱)	Quantity (kg)	Value (₱)	
NCR Metro Manila	6,936.99	82.00	1,057.02	12.93	2.24
1 Ilocos Region	4,740.00	51.73	1,028.58	10.93	2.17
2 Cagayan Valley	5,231.37	55.59	965.53	10.26	1.61
3 Central Luzon	6,654.96	41.41	1,239.51	7.60	2.38
4 Southern Tagalog	4,777.92	54.80	1,170.78	11.66	2.02
5 Bicol Region	1,557.09	28.59	210.93	4.45	1.97
6 Western Visayas	5,024.40	47.86	893.49	7.38	1.71
7 Central Visayas	3,571.59	38.12	661.23	6.57	1.86
8 Eastern Visayas	4,154.61	47.12	732.33	7.92	2.06
9 Western Mindanao	5,114.46	58.20	933.78	9.78	1.74
10 Northern Mindanao	6,071.94	65.00	872.16	10.79	2.07
11 Southern Mindanao	3,981.60	42.82	537.99	6.51	2.12
12 Central Mindanao	5,647.71	62.50	692.04	8.30	1.82
Philippines	5,055.21	52.12	921.93	9.37	1.98

- * Legend: 1.0 - Daily 3.0 - Monthly
 2.0 - Weekly 4.0 - Rarely/Almost Never

Note: One bottle of softdrink = 8 ounces or 237 ml.

Dairy Products/Bread Spread

The consumption of cheese (Table 45), yoghurt (Table 46), yakult (Table 47), butter (Table 48), ice cream (Table 49), and margarine (Table 50) were very low as evident in the average frequency of consumption. Cheese, butter, and margarine only had an average consumption frequency ranging from 2.61 to 2.90, while fermented products and ice cream were eaten monthly, if not rarely based from an average consumption frequency ranging from 3.08 to 3.85. These values did not mean low acceptability but was affected by the product's price, particularly those of the dairy products, as well as by their availability in a specific region.

Fermented peanut milk as a yoghurt substitute was already tried (Beuchat and Mail 1978, Schmidt et al. 1980).

Table 51 shows that bread spread, in general, had a high consumption frequency (2.26) which can be explained by the Filipino's love for bread, consuming the latter at a per capita rate of 0.64 kg/month (earlier noted in Table 25). This further explains the Filipino's high acceptance for peanut butter, cheese, and butter. Guirguis et al. (1985), Krishnaswamy and Patel (1968), and Suknumsuvun (1987) used peanut in developing imitation cheese and spread.

Table 43. Monthly household and per capita consumption and expenditure of fruit juice in the Philippines.

Region	Household		Per Capita		Average Frequency of Consumption*
	Quantity (ml)	Value (₱)	Quantity (ml)	Value (₱)	
NCR Metro Manila	1,275.0	108.75	175.0	14.85	2.06
1 Ilocos	1,812.5	27.00	260.0	4.63	2.90
2 Cagayan Valley	3,574.6	53.25	499.4	7.44	1.68
3 Central Luzon	437.5	19.00	117.5	4.71	2.70
4 Southern Tagalog	465.0	41.39	100.0	8.43	2.80
5 Bicol Region	417.5	46.00	67.5	6.41	2.53
6 Western Visayas	750.0	43.00	95.0	5.75	2.38
7 Central Visayas	322.5	38.65	55.0	6.52	2.06
8 Eastern Visayas	322.5	29.47	82.5	6.32	2.64
9 Western Mindanao	472.5	42.43	75.0	6.49	2.10
10 Northern Mindanao	672.5	38.26	92.5	5.70	2.33

Table 43. Continued.

Region	Household		Per Capita		Average Frequency of Consumption
	Quantity (kg)	Value (₱)	Quantity (kg)	Value (₱)	
11 Southern Mindanao	625.0	29.67	87.5	4.39	2.06
12 Central Mindanao	457.5	29.00	70.0	4.09	2.22
Philippines	892.7	40.63	147.6	6.72	2.39

- * Legend : 1.0 — Daily;
 2.0 — Weekly;
 3.0 — Monthly;
 4.0 — Rarely/Almost Never.

Note: One can of fruit juice = 250 ml.

Table 44. Monthly household and per capita consumption and expenditure for beer/liquor in the Philippines.

Region	Household		Per Capita		Average Frequency of Consumption*
	Quantity (ml)	Value (₱)	Quantity (ml)	Value (₱)	
NCR Metro Manila	7,488.0	98.25	1,116.8	14.26	3.68
1 Ilocos Region	10,240.0	101.33	2,758.4	25.58	3.58
2 Cagayan Valley	5,221.6	51.67	1,060.1	10.49	3.18
3 Central Luzon	8,560.0	82.50	1,776.0	12.61	3.64
4 Southern Tagalog	11,520.0	43.27	2,246.4	9.38	3.49
5 Bicol Region	1,920.0	83.56	329.6	11.32	3.47
6 Western Visayas	4,640.0	43.00	595.2	5.54	3.37
7 Central Visayas	1,920.0	32.25	339.2	6.71	3.28
8 Eastern Visayas	4,425.6	28.20	684.8	5.28	3.20
9 Western Mindanao	2,825.6	41.00	505.6	5.62	3.49
10 Northern Mindanao	3,472.0	45.62	502.4	6.80	3.25
11 Southern Mindanao	—	14.67	—	2.33	3.30
12 Central Mindanao	4,054.4	57.50	620.8	9.29	2.67
Philippines	5,199.30	52.72	976.20	9.16	3.45

- * Legend : 1.0 — Daily;
 2.0 — Weekly;
 3.0 — Monthly;
 4.0 — Rarely/Almost Never.

Note: One bottle of beer/liquor = 320 ml.

Table 45. Monthly household and per capita consumption and expenditure for cheese in the Philippines.

Region	Household		Per Capita		Average Frequency of Consumption*
	Quantity (ml)	Value (₱)	Quantity (ml)	Value (₱)	
NCR Metro Manila	584.0	37.70	90.0	6.08	2.00
1 Ilocos Region	466.0	25.30	82.0	5.63	3.06
2 Cagayan Valley	462.4	29.42	67.4	4.29	2.62
3 Central Luzon	342.0	24.88	72.0	5.62	2.94
4 Southern Tagalog	442.0	37.85	88.0	7.53	2.55
5 Bicol Region	300.0	27.40	42.0	4.08	3.58
6 Western Visayas	500.0	28.00	64.0	5.00	2.61
7 Central Visayas	434.0	25.44	84.0	4.93	2.53
8 Eastern Visayas	600.0	36.44	94.0	5.89	3.22
9 Western Mindanao	400.0	39.50	82.0	8.36	2.53
10 Northern Mindanao	400.0	26.92	64.0	4.20	2.65
11 Southern Mindanao	300.0	24.29	40.0	3.87	2.71
12 Central Mindanao	334.0	24.00	38.0	2.70	3.08
Philippines	428.0	31.92	78.8	5.88	2.74

- * Legend : 1.0 — Daily;
 2.0 — Weekly;
 3.0 — Monthly;
 4.0 — Rarely/Almost Never.

Note: One box/bar of cheese = 225 g.

Table 46. Monthly household and per capita consumption and expenditure for yoghurt in the Philippines.

Region	Household		Per Capita		Average Frequency of Consumption*
	Quantity (ml)	Value (₱)	Quantity (ml)	Value (₱)	
NCR Metro Manila	750.0	75.00	110.0	10.71	3.80
1 Ilocos Region	—	—	—	—	3.83
2 Cagayan Valley	—	—	—	—	4.00
3 Central Luzon	250.0	30.00	62.5	6.96	3.88
4 Southern Tagalog	—	5.00	—	1.00	3.95
5 Bicol Region	125.0	20.00	17.5	3.43	3.92
6 Western Visayas	500.0	50.00	62.5	6.25	3.70
7 Central Visayas	—	12.50	—	2.71	3.70

Table 46. Continued.

Region	Household		Per Capita		Average Frequency of Consumption
	Quantity (kg)	Value (P)	Quantity (kg)	Value (P)	
8 Eastern Visayas	—	15.00	—	3.75	4.00
9 Western Mindanao	—	10.00	—	1.04	3.73
10 Northern Mindanao	1,875.00	35.00	208.75	3.44	3.82
11 Southern Mindanao	—	—	—	—	3.91
12 Central Mindanao	—	—	—	—	3.76
Philippines	708.75	25.71	95.0	4.06	3.85

- * Legend: 1.0 — Daily;
 2.0 — Weekly;
 3.0 — Monthly;
 4.0 — Rarely/Almost Never.

Note: One bottle of yoghurt = 125 ml.

Table 47. Monthly household and per capita consumption and expenditure for yakult in the Philippines.

Region	Household		Per Capita		Average Frequency of Consumption*
	Quantity (ml)	Value (P)	Quantity (ml)	Value (P)	
NCR Metro Manila	2,360.0	45.00	274.4	5.22	3.42
1 Ilocos	2,640.0	25.00	504.0	6.67	3.63
2 Cagayan Valley	717.8	12.50	102.8	1.79	3.77
3 Central Luzon	373.6	19.00	88.0	4.35	3.83
4 Southern Tagalog	1,776.0	24.89	392.0	5.40	3.74
5 Bicol Region	—	42.00	—	6.23	3.81
6 Western Visayas	2,480.0	34.00	310.4	4.25	3.51
7 Central Visayas	3,200.0	25.00	533.6	4.44	3.49
8 Eastern Visayas	480.0	17.0	68.8	4.25	3.82
9 Western Mindanao	240.0	11.0	34.4	1.34	3.51
10 Northern Mindanao	832.0	25.33	100.0	2.83	3.78
11 Southern Mindanao	—	—	—	—	3.46
12 Central Mindanao	480.0	23.00	44.0	3.24	3.31
Philippines	1,489.6	25.94	242.4	4.26	3.65

- * Legend: 1.0 — Daily; 2.0 — Weekly; 3.0 — Monthly; 4.0 — Rarely/Almost Never

Note: One bottle of yakult = 80 ml.

Table 48. Monthly household and per capita consumption and expenditure for butter in the Philippines.

Region	Household		Per Capita		Average Frequency of Consumption*
	Quantity (g)	Value (₱)	Quantity (g)	Value (₱)	
NCR Metro Manila	645.7 ^c	31.17	96.75	4.14	1.96
1 Ilocos Region	450.00	32.78	103.50	7.25	2.70
2 Cagayan Valley	1,530.12	26.25	225.00	3.86	2.37
3 Central Luzon	375.75	31.86	65.25	7.91	3.11
4 Southern Tagalog	562.50	24.70	114.75	4.48	2.65
5 Bicol Region	225.00	27.12	56.25	4.37	2.77
6 Western Visayas	709.22	38.40	97.15	5.26	2.26
7 Central Visayas	382.50	20.71	76.50	3.96	2.60
8 Eastern Visayas	393.75	31.29	54.00	4.80	3.14
9 Western Mindanao	562.50	35.89	21.50	6.15	2.47
10 Northern Mindanao	524.25	29.21	74.25	4.72	2.49
11 Southern Mindanao	450.00	15.80	56.25	2.24	2.56
12 Central Mindanao	337.50	28.25	36.00	2.73	2.89
Philippines	523.94	28.74	85.5	4.69	2.61

- * Legend : 1.0 — Daily;
 2.0 — Weekly;
 3.0 — Monthly;
 4.0 — Rarely/Almost Never.

Note: One bar of butter = 225 g.

Table 49. Monthly household and per capita consumption and expenditure for ice cream in the Philippines.

Region	Household		Per Capita		Average Frequency of Consumption*
	Quantity (g)	Value (₱)	Quantity (g)	Value (₱)	
NCR Metro Manila	2,120.18	83.80	290.56	12.71	2.89
1 Ilocos Region	1,893.18	45.40	340.50	8.44	2.78
2 Cagayan Valley	1,589.00	71.00	172.52	10.89	
3 Central Luzon	3,632.00	55.46	694.62	10.03	3.39
4 Southern Tagalog	1,711.58	57.31	363.20	12.76	3.18
5 Bicol Region	908.00	20.00	158.90	3.42	3.29

Table 49. Continued.

Region	Household		Per Capita		Average Frequency of Consumption
	Quantity (kg)	Value (P)	Quantity (kg)	Value (P)	
6 Western Visayas	5,448.00	233.00	594.74	24.08	2.66
7 Central Visayas	1,929.50	52.27	317.80	8.99	2.66
8 Eastern Visayas	1,529.98	40.12	331.42	8.74	3.15
9 Western Mindanao	1,816.00	72.11	463.20	14.45	3.06
10 Northern Mindanao	2,006.68	76.27	308.72	12.18	3.22
11 Southern Mindanao	1,362.00	55.60	258.78	10.05	3.55
12 Central Mindanao	1,557.22	65.78	227.00	10.06	3.06
Philippines	2,043.00	61.32	331.42	10.58	3.08

* Legend: 1.0 - Daily; 3.0 - Monthly; 2.0 - Weekly; 4.0 - Rarely/Almost Never

Note: One pint of ice cream = 454 g; two quarts of ice cream = 16 ounces or 355 ml or 0.355 liters.

Table 50. Monthly household and per capita consumption and expenditure for margarine in the Philippines.

Region	Household		Per Capita		Average Frequency of Consumption*
	Quantity (g)	Value (P)	Quantity (g)	Value (P)	
NCR Metro Manila	533.25	38.60	85.50	7.39	2.49
1 Ilocos	405.00	17.54	60.75	3.73	2.91
2 Cagayan Valley	242.63	11.08	35.04	1.60	2.57
3 Central Luzon	270.00	12.33	47.25	2.44	3.33
4 Southern Tagalog	400.50	13.96	74.25	2.67	2.99
5 Bicol Region	337.50	17.69	72.00	3.09	2.72
6 Western Visayas	675.00	20.80	67.50	2.86	2.48
7 Central Visayas	225.00	24.42	49.50	4.90	2.71
8 Eastern Visayas	225.00	20.45	54.00	3.59	2.87
9 Western Mindanao	225.00	13.30	74.25	2.13	2.61
10 Northern Mindanao	675.00	20.21	69.75	3.08	2.78
11 Southern Mindanao	225.00	11.60	27.00	1.48	2.62
12 Central Mindanao	225.00	22.20	24.75	3.02	2.48
Philippines	369.89	17.97	65.25	3.17	2.90

* Legend: 1.0 - Daily; 3.0 - Monthly; 2.0 - Weekly; 4.0 - Rarely/Almost Never

Note: One bar of margarine = 225 g.

Table 51. Monthly household and per capita consumption and expenditure for bread spread in the Philippines.

Region	Household		Per Capita		Average Frequency of Consumption*
	Quantity (g)	Value (₱)	Quantity (g)	Value (₱)	
NCR Metro Manila	468.00	43.44	69.75	7.29	1.73
1 Ilocos Region	225.00	26.73	40.50	4.98	2.73
2 Cagayan Valley	975.33	61.48	153.25	9.66	1.68
3 Central Luzon	393.75	24.82	60.75	5.07	2.42
4 Southern Tagalog	544.50	47.20	126.00	10.19	2.13
5 Bicol Region	225.00	20.75	33.75	3.49	2.58
6 Western Visayas	562.50	113.17	54.00	12.88	2.12
7 Central Visayas	418.00	32.79	87.75	5.94	2.16
8 Eastern Visayas	225.00	24.45	42.75	3.93	2.75
9 Western Mindanao	562.50	34.44	103.50	6.52	2.06
10 Northern Mindanao	589.50	34.14	78.75	5.55	2.38
11 Southern Mindanao	225.00	21.78	27.00	4.05	2.51
12 Central Mindanao	450.00	35.25	74.25	5.91	2.12
Philippines	445.75	40.03	76.50	6.87	2.26

* Legend : 1.0 — Daily;
 2.0 — Weekly;
 3.0 — Monthly;
 4.0 — Rarely/Almost Never.

Note: One bottle of bread spread = 225 g.

Table 52. Monthly household and per capita consumption and expenditure for sweet potato in the Philippines.

Region	Household		Per Capita		Average Frequency of Consumption*
	Quantity (g)	Value (₱)	Quantity (g)	Value (₱)	
NCR Metro Manila	1,600.00	19.00	248.57	3.83	3.21
1 Ilocos Region	1,888.89	10.45	303.87	1.77	3.11
2 Cagayan Valley	1,611.11	10.44	217.63	1.63	2.95
3 Central Luzon	1,750.00	12.33	269.05	2.71	3.32
4 Southern Tagalog	1,902.94	13.25	431.07	2.45	3.16
5 Bicol Region	1,833.33	19.11	303.17	3.36	2.10
6 Western Visayas	—	36.25	—	3.39	3.05

Table 52. Continued.

Region	Household		Per Capita		Average Frequency of Consumption
	Quantity (kg)	Value (P)	Quantity (kg)	Value (P)	
7 Central Visayas	1,200.00	14.71	250.00	2.61	3.18
8 Eastern Visayas	1,923.08	12.52	370.70	2.20	2.98
9 Western Mindanao	1,500.00	14.12	241.67	2.36	3.31
10 Northern Mindanao	2,000.00	11.67	312.05	1.76	3.35
11 Southern Mindanao	4,000.00	11.60	571.43	1.64	3.43
12 Central Mindanao	1,200.00	9.00	158.51	1.31	2.89
Philippines	1,691.66	13.55	307.18	2.46	3.08

* Legend: 1.0 - Daily; 3.0 - Monthly; 2.0 - Weekly; 4.0 - Rarely/Almost Never

Table 53. Monthly household and per capita consumption and expenditure for cassava in the Philippines.

Region	Household		Per Capita		Average Frequency of Consumption*
	Quantity (g)	Value (P)	Quantity (g)	Value (P)	
NCR Metro Manila	750.00	32.50	125.00	7.08	3.44
1 Ilocos Region	950.00	7.14	179.29	1.28	3.55
2 Cagayan Valley	1,333.00	9.60	195.77	1.51	3.35
3 Central Luzon	1,000.00	10.08	133.93	1.82	3.29
4 Southern Tagalog	1,460.00	10.14	297.08	2.01	3.35
5 Bicol Region	—	16.42	—	2.53	2.17
6 Western Visayas	—	31.00	—	5.08	3.18
7 Central Visayas	1,000.00	6.00	250.00	1.08	3.44
8 Eastern Visayas	1,772.73	10.72	379.87	1.79	3.09
9 Western Mindanao	750.00	11.50	133.33	1.76	3.30
10 Northern Mindanao	2,000.00	11.36	295.59	1.76	4.21
11 Southern Mindanao	4,000.00	12.50	571.43	2.23	3.66
12 Central Mindanao	1,000.00	11.67	125.00	1.71	3.54
Philippines	1,524.00	11.81	272.69	2.01	3.25

* Legend: 1.0 — Daily;
2.0 — Weekly;
3.0 — Monthly;
4.0 — Rarely/Almost Never.

Root Crops

Filipinos consumed sweet potato more than cassava at an average per capita rate of 307.18 g/month and 272.69 g/month, respectively. Considering the low price of these commodities as source of energy costing only ₱2.46 and ₱2.01, respectively, Filipinos are consuming sweet potato (3.08) and cassava (3.25) monthly (Tables 52 and 53, respectively). Eastern Visayas had the highest per capita consumption of cassava at 379.87 g/month while Southern Mindanao was the top consumer of sweet potato (571.43 g/month). Utilization of these rootcrops must also be developed.

Candies/Snack Items

The consumption rate for candies and snack items are listed in Tables 54 and 55, respectively. These food items ranked 24th and 12th, respectively, based on consumption frequency, ranging from 2.33 to 2.46. Peanut, being a good ingredient for these finger-food products, has a great potential for increasing its consumption, consequently encouraging an increase in local production.

Nutrient Analysis of Various Food Items Including Peanuts

The nutrient composition of the Filipino diet was calculated based on the per capita consumption data shown in Table 56.

Filipinos consumed a lot of rice contributing about 27% of the total caloric intake per day, then followed by processed meat and pork. Fish was the primary source of protein (20.4%). Since rice was eaten almost eight times as much as pork, both equally shared 10.5% of the total daily intake of protein.

Relatively, the per capita consumption of meat, poultry, and fish was very low due to their high cost. Likewise, consumption of dairy products was also minimal.

The actual or calculated energy and protein consumption per day for Filipinos were below the recommended daily allowance (RDA) set by the Food and Nutrition Research Institute (FNRI 1980) as presented in Appendix 4.

The RDA requirement for energy ranged from 1,810 to 2,580 kcal/day for a 56-kg man and 1,540 to 1,920 kcal/day for a 48-kg woman, compared to the calculated amount of only 1,227 kcal/day.

Table 54. Monthly household and per capita consumption and expenditure for candies in the Philippines.

Region	Household		Per Capita		Average Frequency of Consumption*
	Quantity (g)	Value (₱)	Quantity (g)	Value (₱)	
NCR Metro Manila	162.50	36.05	24.70	5.24	2.47
1 Ilocos Region	528.45	12.56	98.80	2.12	2.54
2 Cagayan Valley	—	60.33	—	8.98	2.35
3 Central Luzon	86.45	11.43	21.45	2.50	2.97
4 Southern Tagalog	86.45	19.63	19.50	4.27	2.52
5 Bicol Region	65.00	12.87	10.40	2.18	2.20
6 Western Visayas	780.00	26.60	179.40	5.10	2.06
7 Central Visayas	118.95	14.80	24.70	3.06	2.24
8 Eastern Visayas	65.00	15.75	21.45	2.67	2.74
9 Western Mindanao	151.45	17.93	24.70	2.72	2.68
10 Northern Mindanao	195.00	19.35	26.65	3.16	2.56
11 Southern Mindanao	195.00	14.00	40.30	2.41	2.30
12 Central Mindanao	162.50	24.92	29.25	3.41	2.14
Philippines	244.62	19.33	42.90	3.39	2.46

* Legend : 1.0 — Daily;
 2.0 — Weekly;
 3.0 — Monthly;
 4.0 — Rarely/Almost Never.

Note: One pack of candies = 65 g.

Table 55. Monthly household and per capita consumption and expenditure for snack food in the Philippines.

Region	Household		Per Capita		Average Frequency of Consumption*
	Quantity (g)	Value (₱)	Quantity (g)	Value (₱)	
NCR Metro Manila	3,399.6	52.70	528.0	8.44	2.07
1 Ilocos Region	4,011.6	39.56	796.8	8.30	2.14
2 Cagayan Valley	—	80.88	—	12.07	2.45
3 Central Luzon	2,564.4	45.51	432.0	8.62	2.64
4 Southern Tagalog	540.0	57.21	130.8	11.11	2.32
5 Bicol Region	120.0	12.62	24.0	2.11	2.34
6 Western Visayas	1,200.0	36.25	150.0	5.52	1.98
7 Central Visayas	288.0	52.52	52.8	9.43	2.27

Table 55. Continued.

Region	Household		Per Capita		Average Frequency of Consumption
	Quantity (kg)	Value (₱)	Quantity (kg)	Value (₱)	
8 Eastern Visayas	1,539.6	20.35	277.2	4.09	2.59
9 Western Mindanao	1,650.0	35.06	247.2	5.97	2.38
10 Northern Mindanao	1,550.4	66.34	220.8	10.28	2.49
11 Southern Mindanao	—	33.33	—	4.59	2.33
12 Central Mindanao	480.0	71.25	66.0	11.50	2.44
Philippines	1,680.0	47.25	285.6	8.29	2.33

* Legend : 1.0 — Daily;
 2.0 — Weekly;
 3.0 — Monthly;
 4.0 — Rarely/Almost Never.

Note: One pack of snack food = 120 g.

For protein, 63 and 54 g of protein/day are required to meet the needs of an average man and woman, respectively, which were higher than 51.59 g protein/day as calculated. The calculated total energy and protein values were actually an overestimation because consumption was based on the assumption that every Filipino ate all the food items included in the survey, which is quite remote.

With the high cost of food, which accounts for almost 40% of total household expenditures, there is really an inadequate amount of protein and calorie intake for Filipinos. The low intake results to the prevalence of malnutrition, particularly in the low income families.

Thus, there is a need to develop an alternative cheaper source of protein to alleviate this situation. Peanut, being a favorite food item by a lot of Filipinos, has a great potential in this area.

A typical Filipino meal per day consisted of high carbohydrates (158.31 g), low fat (64.51 g), and protein (51.59 g). Rice, the staple food of Filipinos, contributed almost 50% of the total carbohydrate intake per day. It is eaten twice or thrice a day with one meat/fish and one vegetable dish, or with a combination of meat/fish-vegetable dish. A day's 250 g of rice cost about ₱1.68 while a 32.37 g pork cost around ₱1.05.

Table 56. Summary of per capita consumption per day and composition for selected food items in the Philippines.

Food Item	Per Capita Consumption		Caloric (KCal)	Protein (g)	Fat (g)	Carbohydrates (g)
	Per month	Per day				
Cereals						
Rice	7.70 kg	250.00 g	332.50	5.25	0.50	74.25
Corn	1.19 kg	39.70 g	64.30	1.63	0.60	13.78
Bread	0.64 kg	21.30	70.29	2.15	0.89	13.40
Meat/Poultry/Fish						
Pork	0.98 kg	32.37 g	79.06	5.46	6.17	(0.00)
Beef	0.63 kg	21.00 g	28.56	4.81	0.88	(0.00)
Chicken	0.63 kg	21.00 g	24.36	4.33	0.65	(0.00)
Proc'd. meat	0.44 kg	14.67 g	86.11	1.57	8.80	(0.00)
Eggs	363.00 g	12.10 g	21.18	1.68	1.50	0.08
Fish	1.69 kg	56.33 g	52.39	10.53	0.84	(0.00)
Vegetables/Fruits						
Vegetables	1.76 kg	58.67 g	34.26	1.76	0.41	6.51
Fruits	1.14 kg	38.00 g	20.90	0.30	0.34	5.28
Milk						
Powdered	0.22 kg	7.30 g	34.75	1.76	1.64	3.30
Evaporated	0.37 li	12.33 ml	18.13	0.95	0.96	1.44
Condensed	0.21 li	7.00 ml	23.73	0.57	0.55	4.25
Fresh	0.69 li	23.00 ml	14.72	0.76	0.83	1.10
Soybean	38.43 mt	1.28 ml	1.69	0.17	0.08	0.14
Drinks						
Chocolate	92.50 g	3.08 g	2.03	0.09	0.01	0.41
Coffee	19.00 g	0.63 g	2.26	0.11	0.01	0.43
Tea	43.36 g	1.45	5.18	0.31	0.01	0.95
Softdrink	921.93 ml	30.73 ml	42.71	0.00	0.00	11.06
Fruit juice	147.64 ml	4.92 ml	3.05	0.00	0.005	0.75
Beer/liquor	0.98 ml	0.03 ml	0.11	0.00	0.005	0.71
Dairy Products/Spread						
Cheese	78.85 g	2.63 g	7.78	0.43	0.62	0.15
Yoghurt	95.00 ml	3.17 ml	1.97	0.17	0.01	0.30
Yakult	0.24 li	8.00 ml	4.97	0.43	0.03	0.76
Butter	85.50 g	2.85 g	20.52	0.014	23.36	0.06
Ice Cream	0.33 kg	11.00 g	24.96	0.33	1.87	1.76
Margarine	65.25 g	2.18 g	17.81	0.00	2.00	0.02
Spread	76.50 g	2.55 g	9.33	0.02	0.75	0.63
Root crops						
Cassava	0.27 kg	9.00 g	9.90	0.05	0.01	2.39
Sweet potato	0.31 kg	10.33 g	13.02	0.10	0.06	3.04

Table 56. Summary of per capita consumption per day and composition for selected food items in the Philippines.

Food Item	Per Capita Consumption		Calorie (KCal)	Protein (g)	Fat (g)	Carbohydrates (g)
	Per month	Per day				
Candies	42.90 g	1.43 g	5.26	0.03	0.003	1.27
Snack Items	0.28 kg	9.33 g	44.00	0.77	2.07	6.09
Peanut Products						
Raw	182.95 g	6.10 g	22.94	1.06	1.62	1.40
Boiled	153.36 g	5.11 g	15.17	0.66	1.14	0.78
Roasted	111.91 g	3.73 g	21.11	1.15	1.79	0.53
Fried	111.08 g	3.70 g	20.96	1.14	1.78	0.53
P. butter	73.20 g	2.44 g	14.05	0.62	1.11	0.64
In candies	27.90 g	0.93 g	4.66	0.15	0.23	0.49
In cakes	29.16 g	0.97 g	2.87	0.13	0.22	0.15
As food ingredient	34.69 g	1.16 g	3.41 g	0.15	0.26	0.18

Sources: Better Homes and Gardens. 1985. New Cookbook. Bantam Books, New York.
Food Composition Tables. 1980. Food and Nutrition Research Institute (FNRI). National Science Development Board. Handbook I. 5th Revision.

A Comparison of Peanut Consumption

Peanut is considered a luxury food, usually consumed less frequently (weekly or monthly) compared to other food items (cereals, meat/poultry/fish, and vegetables) which are consumed daily or weekly almost regularly (Table 22).

As source of protein, peanut experiences a stiff competition posed by red meat, which is more accepted as a quality source of protein. In terms of consumption frequency, meat/poultry/fish and snack items were eaten more frequently (averaging 2.17 and 2.33, respectively) than peanut (averaging 2.38). On the other hand, peanut was more frequently consumed than candies. The average consumption frequency of candies was almost monthly (2.46).

As a complementary food item to beer/wine, peanut, particularly roasted and fried (a drinker's treat), is consumed weekly (2.12) even though the said drink is consumed monthly (3.45). Peanut, as a snack food, may also be related to how respondents use media at home, since it is a favorite finger food when reading, listening to the radio, or when watching the television.

Determinants of Peanut Consumption and Utilization

Peanut Consumption. The demand for peanuts as food depends upon a number of factors, namely: the peanut's (or peanut product's) price, the prices of its complementary or substitute commodities, consumer's income and tastes/preferences, and other related factors such as: the availability of the commodity and availability of complementary or substitute commodities. The latter two factors also take into account the form and quality of the commodities in demand.

The quantity of peanut consumed is inversely related to its price. The quantity of peanut demanded tends to decrease as its own price increases.

The price of a substitute food such mungbean, as source of vegetable protein, also influences the quantity of peanut demanded as food. If the price of a substitute food goes up, it becomes relatively cheaper for the consumer to buy peanuts, thus increasing the demand for it.

Population also has a positive effect on the consumption of peanut as food. As the population increases, the demand for peanut, and for other food items, is expected to rise.

Since peanut is a luxury food, an increase in income may effect an increase in the quantity of peanut demanded as food. However, the said disposition of income will depend on the consumer's income level. As in this study, an increase in the gross monthly household income of the respondents may or may not positively affect the demand for peanut. Those household-respondents who earned less than ₱1,000.00 may devote the marginal increase in their income to staple food rather than to "luxury" food items. On the other extreme, those earning more than ₱20,000.00 may devote the said increase in income to luxury items, including peanut. The respondents earning between these two income levels may thus decide to devote their additional income favorably or unfavorably towards peanut.

Peanut Utilization. The popular utilization of a certain commodity basically depends on the availability of the said item in the form and quality desired, and on its price. For peanuts, while form may either mean raw or processed, quality will mean the product's characteristics such as color, moisture content, and size, as may be measured by weight.

Manufacturers of certain peanut products choose specific qualities of raw peanuts to use. Makers of fried peanut (adobo) and boiled, roasted or greaseless peanuts prefer to use large-sized peanuts as raw materials. Because these cooking processes shrink the size of raw peanuts, the use of large-sized ones still ensure an end-product whose size is desirable to buyers or consumers. Similarly, makers of peanut butter and coated peanuts settle for smaller-sized raw peanuts since their end-products' demand or consumption do not hinge on its final size.

Summary and Conclusion

A nation-wide survey of peanut consumption patterns in the Philippines was conducted from June to October 1987. The questionnaire designed for self-administration was written in English with a corresponding Tagalog translation. It was structured to include demographic data, consumers' attitude to peanuts, household consumption of raw and processed peanuts, peanut products manufactured and being sold in the area, and consumption patterns of 33 food items.

The survey covered the 13 regions and at least one province/city/town was chosen for each region. The number of respondents for each region was based on population. Aside from personal interviews, some respondents answered the questionnaires by mail, for which self-stamped envelopes were provided.

Out of 1,500 questionnaires initially sent, 75% or 1,126 were returned and completed. Region IV (Southern Tagalog) represented the highest number of total respondents (20.2%) while Region II (Cagayan Valley) represented the least with 2.4%.

Majority of the respondents were 20-39 years old (56.6%), predominantly female (70.5%) and were married (53.5%). A high percentage (61%) had college education, employed full-time (59.1%) and earning a household income of ₱3,000 to ₱4,999/month (27.5%) and ₱1,000 to ₱2,999/month (28.9%).

Most of the Filipino families had four to six members (47.4%) while only less than 10% had one to three members. Then, for a family earning ₱3,000/month, approximately 40% of the monthly income (or ₱1,200/month) was spent for food, with the wife usually buying and cooking the food (64.8%) at home (71.1%).

Peanut was found to be popularly used or consumed fried (62.5%), boiled (60.1%), or in the form of peanut butter (61.5%). Peanut oil was relatively unknown to Filipino consumers while peanut butter was the most favorite product (35.4%), followed by fried (17.2%), roasted (16.6%), and boiled peanuts (11.1%).

Majority of the peanut was bought from public/flea markets (33.9%); almost 20% from supermarkets and groceries while only 6.9% was homegrown.

The positive attitudes towards peanuts outweighed the negative ones. The ranking of the attitudes were as follows: nutritious (74.7%), delicious (57.2%), a health food (29.2%), and expensive (25.3%). Some thought that peanut was a food for the brain while others perceived peanut as fattening, pimple-causing, and caused diarrhea, etc.

The consumption rate of the eight different forms (raw and by-products) of peanuts was discussed and compared among the 13 regions surveyed. The average per capita consumption per month of raw peanuts was 182.95 g. Among the peanut products, boiled (153.36 g), roasted (111.91 g), fried (111.08 g), and peanut butter (73.20 g) were considered the top four items consumed. The survey confirmed the high acceptability of peanuts among the Filipino consumers, but the high cost of the commodity may explain its minimal consumption in the Philippines.

Some peanut products were area-specific, but peanut butter was produced/sold in all the 13 regions of the Philippines, followed by fried, roasted, greaseless, and brittle peanuts. There was only one manufacturer of peanut broas, i.e., in Cebu (Region VI) while peanut kisses were produced only in Bohol.

Peanut is usually consumed less frequently (weekly or monthly) compared to other food items (cereals, meat/poultry/fish, and vegetables) which is regularly consumed daily or weekly.

The calculated energy and protein consumption per day of Filipinos is below the RDA requirement prepared by Food and Nutrition Research Institute (FNRI) (Food Composition Tables 1980). This is probably due to the high cost of traditional sources of protein such as meat, poultry, fish, and dairy products.

There is real need to develop a cheaper alternative source of protein. Peanut, which is highly nutritious and highly accepted by the Filipino consumers, has a great potential in supplying the nutritional needs, provided the price of raw peanut is reduced.

The Filipinos' love for peanuts/peanut products is unquestionable, but with the current economic situation, wherein food accounted from 40 to 50% of the household income, buying peanut is a luxury.

Recommendations

The following recommendations are based on the problems plaguing the peanut industry in the Philippines.

Improve the Quality of Local Peanut

The peanut processors, wholesalers, and traders in the country complained of the inferior quality of peanuts locally produced compared to the imported ones. Peanuts from China are preferred by the buying public because of their bigger sizes. Bigger peanuts were preferred for fried (adobo) and greaseless peanut, while smaller-sized peanuts were used for peanut butter, coated peanut, and other recipes that needed grinding.

Shrinkage, molding and short shelf-life were common complaints for peanuts, especially those harvested during rainy season because of inadequate drying and high moisture content. Peanut farmers must find ways to improve the postharvest handling and storage of peanuts. The government must also provide technical help to improve the drying and storage of peanuts and for plant breeders to develop bigger peanuts. To encourage local production, the government must limit future importation.

Improvement and Development of Peanut Products

To increase the utilization of peanuts, the improvement in the quality of existing peanut products as well as the development of new peanut products should be pursued. The study should deal on the various aspects of processing, packaging, and handling of peanuts. A compilation of the processes for these various products must be done for information dissemination.

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Appendices

Appendix 1. Samples of the questionnaires used (in English and Tagalog).

Institute of Food Science and Technology
University of the Philippines at Los Baños
College, Laguna 3720

25 June 1987

Dear Consumer:

We are sending you a questionnaire of our survey on peanut consumption and existing peanut products in your area. Please answer the questionnaire written both in English and Tagalog completely. Your opinion is very important and would be of great help in our study.

We hope that these information will help producers/manufacturers of peanut products find out what the consumers really want and need. We also hope that these information will encourage food processors in developing more peanut products, and help peanut farmers by increasing peanut production.

After completely answering the questionnaire, please put it in the addressed and stamped envelop, seal, then mail it as soon as possible before July 30, 1987.

Thank you very much for your cooperation.

(In Tagalog)

Sa mga kaibigan:

Kami po ay bumuo ng mga katanungan para sa aming pagsasaliksik tungko! sa pagkain at sa mga produkto mula sa mani na ginagawa sa Tagalog. Kung maari ay sagutin ang lahat ng mga katanungan na sinulat sa Ingles at Tagalog. Ang inyong opinyon ay mahalaga at malaking tulong sa aming pagsasaliksik na aming ginagawa para sa buong Pilipinas.

Kami po ay umaasa na ang mga impormasyong ito ay makakatulong sa mga gumagawa at may interes gumawa ng produkto at pagkain mula sa mani. Sa ganito rin pong paraan ay malalaman nila ang tunay na kailangan at naisin ng mga mamimili. Ito rin po ay makakapagdulong ng mga mataas na pangangailangan sa mani kaya't ating pong matutulongan tumaas ang kita ng mga magtatanim ng mani.

Pagkatapos po ninyong sagutin ang mga katanungan namin, pakilagay sa sobre-selyado at ihulog sa lalong madaling panahon, bago mag ika-30 ng Hulyo.

Marami pong salamat sa inyong pagtulong.

Sincerely yours,

SONIA M. RUBICO
Researcher

RAQUEL C. ARENAS
Researcher

Appendix 2. A survey of peanut consumption in the Philippines

Code No. _____

Name (Pangalan) _____

Address (Tirahan) _____

I. General Background

1. Age (Edad): _____
2. Sex: Male (Lalaki) _____ Female (Babae) _____

3. What is your marital status? (Ikaw ba ay ?)

Single (Binata/Dalaga) _____

Married (May Asawa) _____

Separated (Hiwalay) _____

Widowed (Biyudo/Biyuda) _____

4. How many people in each group live in your household? Include yourself in the count. (Ilan kayo sa bahay? Isama ang inyong sarili sa bilang.)

0 - 3 years old _____ 40 - 49 _____

4 - 6 (taon) _____ 50 - 65 _____

7 - 12 _____ Over 65 _____

13 - 19 _____

20 - 39 _____ Total _____

5. What is your educational attainment? (Antas ng pag-aaral na natapos mo)

Elementary _____ College _____

High School _____ Graduate School _____

Vocational _____ (M.S., PhD, Law, etc.) _____

6. Please check which one best applies to you: (Alin ang pinaka-angkop sa iyo?)

Homemaker (Maybahay) _____

Employed full-time (May pirmihang trabaho) _____

Employed part-time (Hindi pirmihan) _____

Student (Estudyante) _____

Unemployed (Walang trabaho) _____

Retired (Retiro) _____

7. How many people in your household contribute to the household income? Include yourself in the count. (Ilang miyembro ng pamilya ang may suweldo? Isama ang iyong sarili sa bilang.)
- a. Number of people employed full-time _____
(Bilang ng tao na may pirmihang trabaho)
- b. Number of people employed part-time _____
(Bilang ng tao na hindi pirmihan ang trabaho)
- c. Number of people with other sources of income _____
(Bilang ng tao na may ibang pinagkakakitaan)
8. What is the total income of your family?
(Gaano ang kinikita ng inyong pamilya sa isang buwan?)
- | | |
|--------------------|----------------------|
| Under ₱1,000 _____ | ₱10,000-12,999 _____ |
| ₱1,000-2,000 _____ | ₱13,000-14,999 _____ |
| ₱3,000-4,999 _____ | ₱15,000-16,999 _____ |
| ₱5,000-6,999 _____ | ₱17,000-20,000 _____ |
| ₱7,000-9,999 _____ | Over ₱20,000 _____ |
9. How much does your household spend for food "per week", not including money spent for meals eaten away from home? (Magkano ang ginagastos ninyo sa pagkain, para sa isang linggong konsumo, hindi kasali ang gastos kung kumakain sa labas?) ₱ _____
10. How many persons eat their meals regularly in your home? Do not include visitors. (Ilang tao ang pirmihang kumakain sa bahay ninyo? Huwag ibilang ang bisita.) _____ persons
11. Do you buy and cook the food in your household most of the time? (Ikaw ba ang laging namimili at nagluluto ng pagkain sa inyong bahay?)
Yes (Oo) _____ No (Hindi) _____
12. Person who buys and cooks food most of the time is the—
(Ang laging namimili at nagluluto ng pagkain ay ang—)
- | | |
|---------------------|-----------------------------|
| Wife (Ina) _____ | Helper (Katulong) _____ |
| Husband (Ama) _____ | Others, specify (Iba) _____ |
| Child (Anak) _____ | |

13. How many times a month do you market for food? (Ilang beses kayo namamalengke sa loob ng isang buwan?)
14. Here are some questions about you/your eating habits: (Narito ang ilang tanong tungkol sa iyo:)
- How many times a day do you eat, including snacks and meals? (Ilang beses ka kumakain sa isang araw, kasama ang meryenda?) _____ times (beses)
 - How many meals do you eat in one week? (Ilang beses ka kumakain sa loob ng isang linggo?)
 - How tall are you? (Gaano ka katangkad?)
 - What is your present weight? (Gaano ka kabigat?)
 - Which one of the following applies to your present weight? (Alin sa sumusunod ang angkop sa iyo?)
 - _____ I want to lose weight (Gusto kong pumayat)
 - _____ I do not want to lose weight (Ayokong mabago ang timbang ko)
 - _____ I want to gain weight (Gusto kong tumaba)

II. Peanut Consumption (Ang pagkunsumo ng mani)

1. In what forms are peanuts used by your household? (Anong klaseng mani ang ginagamit/kinakain ng inyong pamilya?)
- | | | | |
|---------------------|-------|--------------------|-------|
| Raw (Hilaw) | _____ | Peanut butter | _____ |
| Boiled (Nilaga) | _____ | In candy (Kendi) | _____ |
| Roasted (Sinangag) | _____ | In cakes (Tinapay) | _____ |
| Fried (Prito) | _____ | As food ingredient | _____ |
| (Ground Giniling) | _____ | (Panghalo sa ulam) | _____ |
| Peanut oil (Langis) | _____ | Others (Iba pa) | _____ |
2. What is your favorite peanut product? (Anong klaseng mani ang pinakagusto mo?)
3. At present, do you have peanut in your home? Yes or No (May mani ba kayo sa bahay ngayon? Mayroon o Wala) If yes, in what form? (Kung Mayroon, anong klase?)
- | | | | | | |
|--------------------|-------|-------|--------------------|-------|-------|
| Raw (Hilaw) | _____ | gramo | P. Butter | _____ | gramo |
| Boiled (Nilaga) | _____ | | In candy (Kendi) | _____ | |
| Roasted (Sinangag) | _____ | | In cakes (Tinapay) | _____ | |
| Fried (Prito) | _____ | | As food ingredient | _____ | |

Peanut oil (Langis) _____ Others (Iba pa) _____

If No (Kung Wala):

Just finished (Kauubos pa lamang) _____

Not stored (Hindi nag-iimbak) _____

Other reasons (Ibang dahilan) _____

4. Where does your household usually obtain peanut/peanut product? (Saan kadalasan nanggagaling ang mani ninyo sa bahay?)

Flea market (Palengke) _____

Supermarket (Malaking tindahan) _____

Grocery (Maliit na tindahan) _____

Door to door selling (Lako) _____

Home-grown (Sariling ani) _____

Gift (Regalo) _____

III. Attitude to Peanut Consumption (Pagpapahalaga sa pagkunsuno ng mani)

1. How much do you use these media? (Gaano kadalas mong ginagamit ang mga sumusunod?)

Everyday (Araw-araw)	2x a Week (2 beses sa 1 linggo)	Once a Week (1 beses sa 1 linggo)	Rarely (Madalang)
-------------------------	---------------------------------------	---	----------------------

Newspaper (Diyaryo) _____

Television (Telebisyon) _____

Radio (Radyo) _____

2. How much does your household consume peanuts? (Gaano ang nauubos na mani ng inyong pamilya?)

_____ Very much, because _____
(Marami, dahil _____)

_____ Not much, because _____
(Hindi gaano, dahil _____)

_____ Does not, because _____
(Hindi, dahil _____)

2. At home, do you make any peanut product? (Sa bahay, gumagawa ba kayo ng makakain mula sa mani?)

Yes (Oo)_____ No (Hindi)_____

If Yes, what peanut product(s)_____

(Kung gumagawa, kayo, anu-ano ang mga ito?)_____

How do you prepare these products?_____

(Paano ang pagluluto nito?)_____

3. Do you see peanut as a food ingredient? Yes_____ No_____
(Gumagamit ba kayo ng mani sa inyong pagluluto?)

If Yes, in what food items? (Ex. Lumpia, Karekare, cake)

(Kung gumagamit kayo, sa anong mga pagkain ninyo ginagamit ang mani? Halimbawa: lumpya, karekare)

Please check the column that corresponds to your answer. (Paki-marka ang hanay na katapat ng inyong sagot.)

	How often do you eat (Dalas ng pagkain)				Qty/Amount bought in a month (Daming binibili sa 1 buwan)	
	Daily	Weekly	Monthly	Rarely	Size/mo.	Price/mo.
Rice						
Corn						
Bread						
Pork						
Beef						
Chicken						
Processed Meat						
Eggs						
Fish						
Vegetables						
Fruits						
Milk:						
Evaporated						
Condensed						
Powdered						
Fresh						
Soymilk						
Chocholate						
Coffee						
Tea						
Softdrink						
Fruit juice						
Beer/win.						
Cheese						
Yoghurt						
Yakult						
Butter						
Ice cream						
Margarine						
Spread						
Camote						
Cassava						
Candy						
Snack Items						

Appendix 3. List of some peanut product manufacturers for each region in the Philippines.

Region	Product Name	Brand/Makers	Manufacturers' Address
** Region NCR			
NCR	Butter	Lily's, Newborn Food	Pasay City, Metro Manila
NCR	Butter	Ludy's, Samuya Food	Pasay City, Metro Manila
NCR	Butter	Ernie's P. Butter	Malabon, Metro Manila
NCR	Butter	Ladys' Choice, CMC	Sucat, Parañaque, M.M.
NCR	Cake	Foodland Industries	Quiapo, M.M.
NCR	Cookies	New Echague Food	408 A. Bonifacio St., Q.C.
NCR	Greaseless	Growers, GFI Ent.	Valenzuela, M.M.
NCR	Nougat	Nene's Sweet	Metro Manila
NCR	Piñato	New Echague Bakery	Metro Manila
NCR	Roasted	Porta Foods	163 Mandaluyong, M.M.
NCR	Roasted	Aleli's Food	18 Banuyo St., Proj. 3, Q.C.
** Region I			
1	Adobo	Benguet State Univ.	La Trinidad, Benguet
1	Adobo	Toledos	Beg. State Univ. Benguet
1	Brittle	Esmabe Food Product	19 San Vicente, Baguio City
1	Brittle	Good Shepherd	Baguio City, Mt. Province
1	Brittle	Rotico Product	Mangaldan, Pangasinan
1	Brittle	Benguet State Univ.	La Trinidad, Benguet
1	Butter	Carreons	Baguio, Mt. Province
1	Butter	Esmabe Food Products	Baguio City, Mt. Province
1	Butter	Benguet State Univ.	La Trinidad, Benguet
1	Coated	Benguet State Univ.	La Trinidad, Benguet
1	Roasted	San Gabriel	San Gabriel, Baguio City
**Region II			
2	Butter	Varbena	Santiago, Isabela
** Region III			
3	Turonos	CHK Food Product	Meycauayan, Bulacan
** Region IV			
4	Brittle	Nena's Food Product	Liliw, Laguna
4	Panutsa	Siiran, Taal	Taal, Pampanga
** Region V			
5	Boiled	Vendor	Camalig, Albay
5	Masareal	Didang's Masareal	Don Rosario Village, Madaue City

**** Region VI**

6	Pastillas	Vidaz' Home Food	Greenville, Subd., Bacolod, Negros Occ.
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**** Region VII**

7	Adobo	Magdalene Food	Mabolo, Cebu
7	Adobo	AMA Food	Osmeña St., Cebu City
7	Broas	Lola Pureza Bakery	10 Dahlia Rd., Greenhills, Mandaue
7	Butter	Joy's Food	Tres de Abril, Cebu
7	Greaseless	Excelsior's	Cebu City
7	Greaseless	Annie's Food	Labangon, Cebu
7	Kisses	Carol B. Alvarez	Tagbilaran City, Bohol
7	Piñato	Titay's	Lilo-an, Cebu
7	Piñato	JJ Jen Foods	Cebu City
7	Roasted	Magdalene Food	Briones St., Cebu City
7	Roasted	JJ-Len Foods	Cebu City
7	Turon	Triple L	Labango, Cebu City
7	Turones	C.C. Bollozos	Cansaga, Cebu
7	Turones	Cebu Hanover Bakery	Mandaue, Cebu
7	Turones	Doti's	Pakgine, Minglanil, Cebu
7	Twins	Lilia's	Tagbilaran, Bohol

**** Region X**

10	Delight	GCC Food Company	Borromeo St., Surigao City
10	Piñato	Solings	Mambajao, Camiguin

**** Region XII**

12	Greaseless	Noralyn Foods	Quezon Ave., Iligan City
12	Roasted	Cheding's Peanut	Sabayle St., Iligan City
12	Roasted	Noralyn's	Quezon Ave., Iligan City, Lanao del Norte
12	Roasted	Peanut House	Cotabato City

Appendix 4. Recommended dietary allowances for Filipinos per day for energy and protein^a

Reference Person	Body wt. ^b (kg)	Energy ^c (Kcal)	Protein ^d (g)
Reference Man:			
20 - 39 yrs.	56	2,580	63
40 - 49 yrs.	56	2,450	63
50 - 59 yrs.	56	2,320	63
60 - 69 yrs.	56	2,060	63
70 and over	56	1,810	63
Reference Woman:			
20 - 39 yrs.	48	1,920	54
40 - 49 yrs.	48	1,820	54
50 - 59 yrs.	48	1,730	54
60 - 69 yrs.	48	1,540	54
70 and over	48	1,340	54
Infant: 6 - 11 months	9	970	25
Child ^e 1- 3 yrs.	13	1,310	26
4 - 6 yrs.	18	1,640	32
7 - 9 yrs.	24	1,870	37
Boy: 10 - 12 yrs.	32	2,270	43
13 - 15 yrs.	44	2,510	59
16 - 19 yrs.	55	2,700	67
Girl: 10 - 12 yrs.	35	2,170	48
13 - 15 yrs.	44	2,200	59
16 - 19 yrs.	48	2,060	59

^a The recommended dietary allowances (RDA) are intended to serve as bases for estimating national food needs, as goals in food production and as guide for planning and/or evaluating dietaries of groups of people.

^b In setting up the desirable weight for Filipinos to serve as basis in planning for better nutrition, the calculated weight of the reference man used is 56 kg and the reference woman, 48 kg which is the average build of the present population.

- ^c Calorie allowance are estimated only for the moderately active adult. The various types of activities engaged in by the population are such that the extremes (the sedentary and the very active) may, in the final analysis, average up to the needs of the moderately active adult. The energy expenditure of the Filipino differs from that of other people because of differences in body size and type and duration of physical activities.
- A decrease of five percent (5%) calorie allowance is used for each decade of 40 - 49 and 50 - 59 years. For the decade 60 - 69, the decrement is 11%. After 70 years, a further decrement is allowed, which is 12% for the reference man and 13% for the reference woman.
- ^d In this revision, the recommended daily protein allowance for the adult is 1.1 g/per kilogram body weight and is based on an NPU of 63. An additional 14 gm is recommended during pregnancy; 29 g during the first six months of lactation; and 16 g during the second 6 months of lactation.
- ^e Allowances for children are based on the needs for the middle year in each group (as 2, 5, 8, etc.) and are for moderate activity and average weight.

Source: Food Composition Tables, 1980. Food and Nutrition Research Institute (FNRI), National Science and Development board (NSDB), Handbook I. 5th Revision.