APPENDIX B

Republic of the Philippines
Department of Agriculture and Natural Resources
AGRICULTURAL ECONOMICS DIVISION
Manila

CROP AND LIVESTOCK SURVEY - 1955

DESIGN OF THE SURVEY

Sampling procedure. A total of 12,286 sample farms was taken out of the 1,638,624 farms in the Philippines as reported in the 1948 Census of Agriculture, or about one sample for every 133 farms.

The multi-stage sampling design was used. Towns were selected in the first stage; barrios, in the second stage; and farm households in the third.

In the selection of sample towns and sample barrios, the unrestricted random sampling method was used; while in the identification of sample farm households, the method used was systematic sampling with a random start.

Establishment of number and identification of sample towns and sample barrios. By treating each province as a stratum and by dividing the total farms in each province by 133 as reported in the 1948 Census of Agriculture, the number of sample farms per province was obtained.

An arbitrary rule was used in figuring the number of sample towns. If the number of sample farms in a province was less than 150, the number of sample towns was determined by dividing the number of sample farms by 20; if sample farms were 150 or more, the divisor used was 30. A total of 422 sample towns was used in the survey.

Identification of sample towns in each stratum was done by using random numbers. After listing and numbering consecutively the names of all towns in each stratum, random numbers which equalled the desired number of sample towns were drawn from the table. The selection of the town was done with replacement.

Allocation of sample farms was made in proportion to the number of farms in each sample town. To determine the num-

COST OF PRODUCTION OF SELECTED CROPS

ber of sample barrios in each sample town, the number of sample farms in each sample town was divided by 10. In the survey, the number of sample barrios involved was 1,267.

The method of identifying the sample barrios was the same

as that used in the sample towns.

All sample forms were distributed among the sample bar-

Selection of sample farms — The sampling unit used in the survey was a farm as defined in the 1948 Census of Agriculture but selection was done by approaching farm households. Thus, a listing of heads of families in all farm households in the sample barrios became necessary. The list included resident and non-resident operators in the same or different households raising crops and or livestock on at least 1/10 hectare of land located in the sample barrio.

The selection of sample farms was done systematically, with the first sample being taken at random and the rest of the samples being selected at every 3rd, 4th or 5th farm, depending on the total number of farming households and number of sample farms.

APPENDIX C

Procedure in computing the cost of production of selected crops.

1.
$$\overline{X} = \frac{1}{\sum_{h=1}^{nh} Y_h} \sum_{h=1}^{nh} X_h \quad ; \quad \overline{X}_r = \frac{1}{Y_h} X_h$$

Where:

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 \vec{X}_r = The average cost of production of crop per hectare for all regions.

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X r = The average cost of production of crop by region.

Xh = Total cost of production of crop of all sub-sample farms in a region.

Yh = Total number of hectares of all sub-sample farms planted with crop in h region.

 $h = 1, 2, \dots nh$ (nh = number of regions)

2.
$$X_h = \sum_{i=1}^{n_i} X_{hi}$$
 ; $Y_h = \sum_{i=1}^{n_i} Y_{hi}$

Where:

Xh and Yh = Same as in equation 1.

Xhi = Total cost of production of crop of all subfarms in i province of h region

 $i = 1, 2, \dots$ ni (ni = number of provinces)

3.
$$X_{hi} = \sum_{j=1}^{ni} X_{hij}$$
; $Y_{hi} = \sum_{j=1}^{ni} Y_{hij}$

Where:

Xhi and Yhi = Same as in equation 2.

Xhij = Total cost of production of crop in the i sub-sample farm in the i province of the h region.

COST OF PRODUCTION OF SELECTED CROPS

Yhij = Total number of hectares planted with crop in the i sample farms of the i province of the h region.

 $j = 1, 2, \dots, nj$ (nj = number of sub-sample farms)

4.
$$X_{hij} = \sum_{k=1}^{nk} X_{hijk}$$

Where:

Xhij = The same as in equation 3.

Xhijk =: The characteristic of the <u>j</u> sub-sample farm in the i province of the <u>h</u> region.

 $k = 1, 2, \dots$ (nk = number of characteristic)

Note: The characteristics of the sample farm are the value of items contributing to the cost of production of crops.

These different items as used in this study are indicated in the schedules for selected crops studied in Appendix B.

Appendix Table 11 Rice - Production and Apparent Consumption Based on Rice Disappearance, Philippines

Year	Total Population as of July 1*	Total	Allowance for Seeds, Animal Feeds, Industrial Uses, Etc. e	Domestic Production Available For Food ^d	Net Import	Total Supply e	Gross Annual Per Capita Supply
•	Number	Cavans	Cavans	Cavans	Cavans	Cavans	Cavans
1949	19,508,700	28,876,300	2,021,340	26,854,960	2,481,380	: 31,357,680	1.61
1950	19,820,500	30,204,590	2,114,460	28,092,130	(147,430)	30,059,160	1.51
1951	20,259,500	30,326,330	2,122,340	33,892,560	1,948,620	32,274,950	1.59
1952	20,645,600	32,810,910	2,296,760	34,005,170	1,123,940	33,934,850	1.64 87
1753	21,039,200	36,443,610	2,551,050	34,525,870	(95,270)	36,348,340	1.73
1951	21,440,200	36,887,280	2,582,100	35,285,030	626,780	37,514,060	1.75
1955	21,848,800	37,124,590	2,593,720	36,264,790	1,214,550	38,339,140	1.75
1956	22,265,300	37,940,890	2,655,860	28,203,490	706,090	38,646,980	1.74
1957	22,6×9,700	3 8,994,400°	2,729,610	30,514,150	337,500h	\$9,331,900	1.73

^{*} Estimates of the Bureau of the Census and Statistics.

Milling percentage based on 51 per cent by volume.

Computed on the basis of 7 per cent of total production.

Total production minus allowance for seeds, animal feeds, industrial uses, etc.

Total production plus net import.

Total supply divided by total population.

[&]quot;June 1st forecast.

[&]quot;January to March, 1957 imports.

Appendix Table 12

Coffee — Yearly Per Capita Consumption
(In Kilograms)

Year	Production	Imports	Exports and Re-Exports	Total Supply Available For Food	Per Capita Consump- tion
1946	3,085,490	6,595,857	61,804	9,619,543	0.52
1947	4,373,320	9,137,083	739	13,509,664	0.72
1948	3,877,220	11,966,529	581	15,843,168	0.83
1949	3,798,200	12,840,028	3	16,638,225	0.85
1950	3,967,150	3,041,715		7,008,865	0.35
1951	4,640,350	4,682,662		9,323,012	0.46
1952	4,965,200	1,176,924		6,142,124	0.30
1953	5,710,400	1,785,186		7,495,586	0.36
1954	6,100,000	1,650,416	182	7,750,234	0.36
1955	7,000,000	2,398,474	28	9,398,446	0.43
1956	7,100,000	2,037,750	52	9,137,698	0.41
				•	

Note: Tables 11 to 26 are appendix tables of Long Range Requirements for Selected Foods in the Philippines, by Hugh L. Cook, Dimas A. Maulit, and Jose M. Lawas, which appeared in the PHILIPPINE STATISTICIAN, September, 1958.

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Appendix Table 13 Cacao — Yearly Per Capita Consumption (In Kilograms)

Year	Production	Imports	Exports and Re-Exports	Total Supply Available For Food	Per Capita Consump- tion
1946 1947 1948 1949 1950 1951 1952 1953 1954 1955	622,820 799,240 681,740 660,000 716,210 758,810 1,260,000 1,377,930 1,400,000 1,500,000	2,052,423 2,444,015 3,147,759 4,004,025 1,509,337 1,915,349 1,976,121 2,281,449 1,832,940 2,128,538 2,180,945	57,453 7,063 6,030 50 40	2,617,790 3,236,192 3,823,469 4,663,975 2,225,547 2,674,159 3,236,121 3,659,339 3,232,940 3,628,538 3,680,945	0.20

Appendix Table 14

Tomatoes — Yearly Per Capita Consumption
(In Kilograms)

Yesr	Production	Net Import	Total Supply Available For Food	Per Capita Consump- tion
1946 1947 1948 1949 1950 1951 1952 1953 1954 1955	11,031,630 9,614,920 8,668,400 14,548,500 16,433,190 22,158,100 42,792,000 53,311,700 57,412,600 58,553,110 58,841,090	3,008,558 3,048,616 4,337,495 5,049,183 507,629 2,248,665 2,323,534 1,518,961 1,905,397 1,249,692 784,820	14,040,188 13,563,536 13,005,895 19,597,683 16,940,819 24,406,765 45,115,534 54,830,661 59,317,997 59,802,802 59,625,910	0.76 0.72 0.68 1.00 0.85 1.20 2.19 2.61 2.77 2.74 2.68

^{*} Includes canned, juices, sauce and catsup.

Appendix Table 15

Banana -- Yearly Per Capita Consumption

(In Kilograms)

Year	Production •	Per Capita Consumption
1946	139,289,680	7.56
1947	184,456,000	9.82
1948	138,722,000	1.25
1949	153,913,600	7.89
1950	161,392,800	8.12
1951	184,651,680	9.11
1952	201,039,750	9.74
1953	263,078,000	12.50
1954	283,674,500	13.23
1955	294,800,090	13.49
1956	303,218,400	13.62

^{*} Data from 1946 to 1948 is computed on the average of 4.0 kilograms per bunch.

Appendix Table 16

Sugar (Centrifugul) — Yearly Per Capita Consumption
(In Kilograms)

Year	Total Domestic Consumption	Per Capita Consumption
1946	30,016,000	1.63
1947	126,152,000	6.72
1948	174,436,000	9.11
1949	192,955,000	9.89
1950	214,574,000	10.79
1951	236,441,000	11.67
1955	279,063,000	13.52
1953	292,776,000	13.92
1954	294,400,000	13.73
1952	330,919,000	15.15
1956	226,756,000	10.18

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Appendix Table 17

Coconut Oil — Yearly Per Capita Consumption (In Kilograms)

Year	Consumption Total Domestic	Per Capita Consumption
1946	43,124,070	2.34
1947	63,458,180	3.38
1948	57,527,270	3.01
1949	53,407,090	2.74
1950	63,461,240	3.19
1951	65,312,290	3.22
1952	53,856,730	2.61
1953	99,871,420	4.75
1954	101,490,000	4.73
1955	116,615,000	5.34
1956	115,226,000	5.18

Appendix Table 18 Beef (Including carabao meat)—Yearly Per Capita Consumption

	PRODU	CTION .	NET II	1PORTS	Total Supply	• • • • • • • • • • • • • • • • • • • •
Year	Dressed M Cattle	eat Weight Carabao Carabao	Canned Beef & Corned Beef	Fresh & Frozen Beef & Veal	Available For Food	Per Capita Consumption
1746	7,504,161	8,202,400	2,165,808	12,009	17,872,878	0.97
1947	7,398,194	6,948,000	6,510,320	95,793	20,947,307	1.12
1948	6,701,307	8,679,360	10,143,473	429,323	25,953,463	1.36
1949	7,514,454	9,412,160	6,392,948	621,518	23,941,080	1.23
1950	7,206,087	9,452,960	2,475,303	343,517	19,477,867	0.98
1951	7,728,633	10,512,320	8,297,905	388,717	26,877,575	1.33
1952	8,158,466	12,104,160	4,759,260	119,781	25,186,667	- 1.22
1953	8,138,238	12,509,280	6,802,540	219,874	27,669,932	1.31
1954	10,710,501	8,172,820	11,291,005	2,014,798	32,188,624	1.50
1955	11,981,475	19,360	13,076,013	3,179,672	28,256,520	1.29
1956 *	12,539,976	1,326,560	18,667,863	5,003,485	37,537,884	1.69

[&]quot;Total number slaughtered in Manila, chartered cities and municipalities.

"Net imports is preliminary.

Sources of basic data: Bureau of the Census and Statistics & Bureau of Animal Industry.

^{*}Converted to diressed meat weight of 141 kilograms per head for cattle and 160 kilograms per head for carabao.

1954 production is from July 1, 1953 up to the time the Carabao Ban took effect; 1955 and 1956 are from those of chartered cities and municipalities slaughter houses.

*Converted to dressed meat weight: Net imports times 2.5.

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Appendix Table 19

Pork — Yearly Per Capita Consumption (In Kilograms)

Year	Production *	Import b	Exports and Re-Exports	Total Frod. Available For Food	Per Capita Consump- tion
1947	19,849,774	70,291	971	19,919,094	1.06
1948	23,934,211.	180,899		24,115,110	1.26
1949	27,270,199	274,018	! ••••	27,544,217	1.41
1950	26,403,923	49,343	•••	26,453,266	1.33
1951	37,957,182	79,952	• • •	38,037,134	1.88
1952	44,800,625	21,206		44,821,831	2.17
1953	37,527,905	36,622	·	37,564,527	1.79
1954	41,956,725	16,104	i	41,972,829	1.96
1955 :	50,442,348	33,804		50,476,152	2.31
1956	53,313,128	14,953		53,328,081	2.40

Includes quantity of pork produced from hogs slaughtered in Manila, chartered cities and municipalities.
 Includes fresh, chilled or frozen and canned pork.

Appendix Table 20

Chicken — Yearly Per Capita Consumption (In Kilograms)

Year	Production •	Import b	Exports and Re-Exports	Total Supply Available For Food	Consump- tion Per Capita
1946	7,883,700	24,285		7,907,985	0,43
1947	10,377,400	34,995	• • •	10,412,395	0.55
1948	16,589,100	51,298		16,640,398	0.87
1949	24,102,100	24,873	٠ '	24,126,973	1.24
1950	27,758,500	6,571		27,765,071	1.40
1951	30,860,500	2,281		30,862,781	1 52
1952	35,299,000	21,311	509	35,319,802	1.71
1953	41,131,200	14,340	123	41,145,417	1.96
1954	43,785,500	7,532	185	43,792,847	2.04
1955	49,042,400	4,360	42	49.046,718	2,24
1956	54,753,347	1,577	!	54,754,904	2.46

^{*}Computed on the average dressed weight of 1.1 kilograms per bird.

b Includes chickens and guineas.

Appendix Table 21

Fish — Yearly Per Capita Consumption

Year	Production	lmports a	Exports Total Supply Per Capita and Available Consump- Re-Exports For Food tion	
1946	96,007,086	21,278,373	237,751 117,047,708 6.35	
1947	251,449,889	43,048,441	1,658,273 292,840,057 15.59	
1948	195,078,483	35,593,449	253,821,230,418,111 12.04	
1949	238,003,124	51,240,890	197,822 289046,192 14.82	
1950	220,189,683	28,259,918	126,426 248 323,175 12.49	
1951	296,089,602	44,627,444	143,315 340,573,731 16.81	
1952 :	313,059,753	22,809,664	158,129 335,711,288 1 16.26	
1953 :	305,626.141	29,347,744	166,360 334,809,522 ; 15.91	
1954	343,624,087	23,242,585	145,087,366,722,485 17.10	
1955 :	362,927,057	48,461,481	221,419 411,183,489 18.81	
1956	393,648,176	44,948,681	133,051 436,571,440 ! 19.61	

[&]quot; Fish meal excluded.

Sources of basic data: Bureau of Fisheries; Bureau of the Census and Statistics.

Appendix Table 22

National Income and Per Capita Income of the Philippines

Year	National Income at Factor Cost (Million Pesos)	Populaiton *	Per Capita (Pesos)
1938	1,037	16,000,303	64.81
1946	4,202	18,609,200	225.80
1947	5,364	18,963,900	282.85
1948	5,511	19,325,400	285.17
1949	5,464	19,693,700	277.45
1950	5,922	20,069,100	295.08
1951	6,487	20,451,700	317.19
1952	6.554	20,841,500	314.47
1953	7,015	21,238,700	330.29
1954	7.145	21,643,600	330.12
1955	7,624	22,056,100	345.66
1956"	8,335	22,476,500	370.83

Source of basic data: Department of Economic Research, Central Bank of the Philippines.

1 of the following year.
*Ex. For 1956, as of January 1, 1957.

^{*} Estimate of the Bureau of the Census and Statistics as of January

Appendix Table 23

Average Retail Prices of Different Major Food Crops

(Source: Records of DANR)

Year	Rice	Corn	Coffee	Cacao	Tomato	Camote	Banana	Sugar	Coco Oil	Becf	Pork	Chicken	Fish
	Cavans	Cavans	Kilos	Kilos	Kilos	Kilos	Kilos	Kilos	Kilos	Kilo	Kilos	Kilos	Kilo
1946	43.68	26.48		_	5.08	_	0.35	1 62	0.56	4.60	3.49	3.71	5.37
19!7	27.68	22.14	1.56		1.36	0.22	0.20	0.21	0.96	3.85	2,46	3.52	2.79
1948	27,42	19,62		_	1.16	0.20	0.18	0.20	0.97	3.36	2.12	2.93	2.89
1949	26,99	15,29	1.07	2.20	98.0	0.20	0.36	0.21	0.62	3.28	2.10	2.52	2.26
1950	21.09	- 12.55	-1.70	2.22	0.71	0.16	0.10	0.22	83,0	2.93	2.20	2.41	2,12
1951	25,49	15.06	2,60	3.47	0.69	0.19	0.42	0.21	0.70	3.00	2.21	3.45	2.11
1952	24.18	12.67	.2,35	2.91	0.69	0.24	0.41	0.23	0.47	3.00	2.19	2.95	2.02
1953	18.72	11.55	2.45	3.16	0.58	0.15	0.27	0.24	0.69	3.00	2.13	2.89	2.02
1954	18.53	11.07	2.51	4.59	0.44	0.19	0.26	0.24	0.57	3.42	2.13	2.64	1.96
1955	19.72	11.87	2.38	3.32	0.26	0.17	0.17	0.22	0.48	3.40	2.10	2.35	2,26
1956	00,21	12.02	2.43	3.18	9.46	0.14	0.20	0.22	0.45	3.25	2.12	2,40	2,24

Note: Cacao and tomato are wholesale price.

Appendix Table 24 All Items Wholesale Price Index, Manila, Philippines (1955 = 100)

Year	!	Index
1947		126.6' -
1948		116.8'
1949		109.8
1950		106.5
1951		119.6
1952		109.4
1953		108.3
1954		102.7
1955		100.0
1956		103.1

^{&#}x27;Estimated from cost of living index.

Source: Reports of Central Bank of the Philippines.

Appendx Tabile 25

Monthly Average Household Expenditures on Selected Commodities in Metropolitan Manila by Income Level, 1954 (Pesos per Month)

3	No. of-	Grains		1013	Meat		:	Root Crops				~ · · · · · · · · · · · · · · · · · · ·
Income Level	House- Holds		For :\nimals	Fish (fresh)	Becf	Pork	Chicken	Camote	Upo, Gabi, Beans, etc.	Beans Dried	Tomatoes	Bananas
0- 99	110	14.32	· · —	5.50	2.62	3.18	3.10	1.08	.90	.82	.73	1.16
100-199	260	20.43	3.18	11.09	4.60	5.76	6.84	.73	1.38	.82	1.12	2.37
200-299	115	26.88	3.23	15.48	8.04	7.91	8.04	.73	1.55	1.29	1.33	3.05
300-399	50	25,71	1.25	15.91	10.41	12.55	10.32	.99	1.63	1.55	1.51	4.17
400-499	27		6.79	20.43	10.88	15.18	10.62	1.72	2.19	1.42	2.02	4.56
500-599	18	22.88	86	23.69	13.12	14.79	10.45	1.16	1.98	1.33	1.46	5.89

Income Level	Eggs (Chicken)	Sugar Brown	Coffee	Cocoa	Coca-Cola
0- 99	1.42	1.38	1.72	.90	.95
100-199	3.23	2.02	2.71	2.62	1.46
200-299	4,52	2.75	3.87	4.21	2.41
300-399	5.72	2.58	4.17	4.90	3.70
400-499	6.19	3.40	5.93	2.58	3.01
500-599	5.72	3.35	5.25 :	 .	8.17

Source of Basic Data:

Sample surveys of households in Metropolitan Manila conducted by the Central Bank in September-November 1954 in two rounds of 308 sample households each (Sampling fraction—1/1000). Households with income levels of P600 and over are excluded.

Food Items	a	b12.34	ь13.34	⁶ 14.23	R1.'234	R1.234
Rice	1.9455	.0019	— .0069	— .0071	.7000	.8367
Corn	2333	.0021	.0036	.0011	.5652	.7518
Coffee	1.1411	.0033	— .3778	.0125	.6730	.8204
Cacao	.4547	0003	— .0079	0016	.1154	.3397
Sweet Potato (Camote).	—1.8206	.1891	-35.5434	—.2284	.8822	.9393
Tomatoes	 1.1178	.0190	3525	0260	. 8257	.9087
Sugar (Centrifugal)	21.4509	.0079	—11.4563	— .0788	.6163	.7850
Bananas	· —7. 5830	.0645	9.6424	.0038	.8064	.8980
Coconut Oil	<u>-1.7069</u>	.0340	4.0803	—.0714	.8468	.9202
Beef	-1.1880	.0053	.1851	.0020	.5773	.7598
Pork	.5801	.0127	6879	0015	.8371	.9149
Chicken	2.7392	.0107	.4698	— .0526	.9900	.9950
Fish	-12.1103	.0640 .	—2.6518	.1242	.7693	.8771