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A STUDY OF THE FOOD CONSUMPTION OF TEN RURAL NEGRO
FAMILIES IN BOWIE COUNTY, TEXAS AS TO EXPENDITURES
FOR FOOD AND ADEQUACY OF DIET

By

MILLIE OREZEE SHAVERS



Prairie View State Normal and Industrial College

Prairie View, Texas

May, 1940

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A STUDY OF THE FOOD CONSUMPTION OF TEN
RURAL NEGRO FAMILIES IN BOWIE COUNTY, TEXAS
AS TO
EXPENDITURES FOR FOOD AND ADEQUACY OF DIET

By

Millie Orezee Shavers

A Thesis in Home Economics Submitted in Partial Fulfillment
of
the Requirements for the Degree of
Bachelor of Science
in the
Division of Home Economics
of the

Prairie View State Normal and Industrial College
Prairie View, Texas

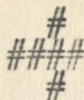
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TABLE OF CONTENTS

	Page
I. INTRODUCTION	1-3
A. Purpose	
B. Definition of Terms	
C. Source of Data	
II. HISTORY	4-5
A. Origin of the Problem	
B. Development of the Problem	
III. DISCUSSION OF FINDINGS	6-19
A. According to percentage of income Used for food	
B. Nutritional Requirements Met	
C. Quality and Quantity of Food Actually Con- sumed	
D. Resulting Health Conditions	
IV. SPECIFIC FACTS AND SUGGESTIONS FOR IMPROVEMENT OF THE RURAL DIET	19-24
V. SUMMARY	25-26
VI. BIBLIOGRAPHY	27
VII. APPENDIX	28-30

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DEDICATION

It is with pride
that I dedicate
this thesis
to
My parents
Mr. and Mrs. R. S. Shavers,
My sister
Miss Laura P. Shavers
and the remaining members of my family



DEFINITION OF TERMS



1. Consumption:

The art of using up an article of unexchangeable value either in serving his own wants or in producing from it another value.

2. Expenditure:

PURPOSE



A laying out of money or spending it for desig-

The purpose of this thesis is to analyze the food expenditures of ten rural families in Bowie County, Texas to find out whether or not the amount of money spent serves its purpose in making the diet adequate. It also ^{is} to provide information for families with low incomes who are confronted with the problem of providing the diet that meets their needs. of food & a prescribed allowance of food with reference to a particular state of health.

DEFINITION OF TERMS

1. Consumption:

The art of using up an article of unexchangeable value either in serving his own wants or in producing from it another value.

2. Expenditure:

A laying out of money or spending it for designated or particular purposes.

3. Adequacy:

That which is sufficient to completely fulfill a profused end. The article used meets the requirements of those using it.

4. Diet:

The habitual or regular provision of food ; a prescribed allowance of food with reference to a particular state of health.

II. HISTORY OF THE PROBLEM

The community studied was Garland Community. The center of this community is three miles west of Dekalb, Texas, Nowlis County. The community is largely a farming area consisting of people who, have, on average, finished high school. These people have a low income and the community population has decreased within the last ten years. There are no more than about fifty (50) families in the community. The majority of them own

SOURCE OF DATA

The compiled material for this thesis was taken from questionnaires filled out by ten families, interviews with the family members and observation through living in this locality. Information has been taken from books and pamphlets written by persons who are authorities in the field of Nutrition. These remaining started raising cotton in large quantities and depended upon the income from the sale of cotton for existence. From 1925-1930 some of these farmers became aware of the problem concerning low food production, and falling prices of cotton which caused it to be almost impossible to secure enough food. Then, truck farming became prevalent, but due to insufficient funds to finance it, truck farming was short lived. Furthermore, many of the naive farmers kept their savings in a bank that was individually owned. This bank, due to insufficient funds, was reduced to bankruptcy in the fall of about 1937. Instantly their food problem increased and it has

II. HISTORY OF THE PROBLEM

The community studied was Garland Community. The center of this community is three miles west of Dekalb, Texas, Bowie County. The community is largely a farming area consisting of people who, have^{on} an average, finished high school. These people have a low income and the community population has decreased within the last ten years. Now, there are no more than about fifty (50) Families in the community. The majority of them own their homes, working facilities and land upon which to work.

The land is sandy loamy soil and for years the inhabitants were not confronted with want due to the fact that enough food was raised to supply adequate diets for each family. From 1925-1930 many of the leading farming families moved to cities or other localities, those remaining started raising cotton in large quantities and depended upon the income from the sale of cotton for existence. From 1928-1930 some of those farmers became aware of the problem concerning low food production, and falling prices of cotton which caused it to be almost impossible to secure enough food. Then, truck farming became prevalent, but due to insufficient funds to finance it, truck farming was short lived. Furthermore, many of the unwise farmers kept their savings in a bank that was individually owned. This bank, due to insufficient funds, was reduced to bankruptcy in the fall of about 1927. Instantly their food problem increased and it has

existed for about ten years with very little improvement.

Now, the only method these rural Negro families have for existing is upon the income received from the sale of farm products. These products are sold in order that they may buy others that they may not be producing. Many of the housewives are able to can fruits and vegetables but the food is produced in such small quantities that after the amount is sold for money the remaining food is poor in quality and almost insufficient for body health and growth.

to not spend money for food directly they use their greatest effort to produce adequate food.

This study enabled the writer to determine the writer to determine the amount of food purchased, the amount of money spent for food, and from this deductions as to the type of food that could be purchased were made. It was found that the income of these families did not exceed four-hundred (\$400) dollars per year. One half to three fourths of the income was spent for food.

After observing the idea that these rural people spend most of their income for food, a study of the problem was continued to find out what food and in what proportions these foods were bought. The following table shows the amount of each food purchased by each of the ten families studied.

III. DISCUSSION OF FINDINGS

Amount Spent For Food

The most fundamental consideration for health and growth of an individual is food. Without it life is impossible. With a scant provision of it growth is stunted. If there is an abundance of it, it is often improperly used, by indiscreet choice of it, inadequate diet is supplied. Rural as well as urban people spend the largest part of their income for food. If they do not spend money for food directly they use their greatest effort to produce adequate food.

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TABLE I.

PORTION OF INCOME SPENT FOR EACH FOOD GROUP BY TEN RURAL FAMILIES

Family No.:	Vegetables Fruits:	Meat, Fish Eggs :	Cereals: Breads:	Sugars Fats :	Milk and It's Products
A	1/8	1/2	1/8	1/8	
B	1/6	1/3	1/6	1/2	
C	1/9	1/2	1/3	1/3	
D	1/9	1/2	1/3	1/3	
E	1/9	1/4	1/3	1/5	
F	1/9	1/4	1/5	1/5	1/6
G	1/5	1/2	1/5	1/6	
H	1/9	1/4	1/6	1/6	
I	1/10	1/7	1/6	1/3	
J	1/10	1/7	1/2	1/6	

(Note: The ^{letters of the} alphabets are used to represent the families studied)

The table shows that in the majority of the families from one seventh to one half of the food expenditures were for meat, fish or poultry. In the study it was discovered that few of the families raised sufficient animals to have meat either fresh or canned throughout the year, but it has been found that few people can meat or preserve it so that it can be kept through-out the summer months. In order to provide enough meat or partially enough, meat is bought already prepared or canned. The same is true with eggs. These farmers usually raise mongrel chickens and the eggs are scant. The hens are not well kept or well fed thus enough eggs are not always on hand. They are compelled to buy their eggs in late summer, fall and winter. The kind of meat purchased is canned and it is usually mackerel or salmon. This shows that there is a tendency toward buying the cheaper meats. These people eat these meats two to four times a week in the summer months. In the winter they eat home cured meats. Cows and hogs are generally raised by all of the families, but they do not raise enough. Eggs, lean meat, poultry and fish are all good protein and muscle-building foods, and because of their flavor and in some cases, texture, they lend much interest to the diet. In addition to protein all of these foods supply some of the important minerals and vitamins. They all contain growth-promoting factors. During the winter when eggs are high and families are unable to afford to buy many. Therefore, most of the eggs are quickly consumed.

The amount of money spent for vegetables and fruits was practically nothing because the majority of the people raised gardens which are usually seasonal and some have truck gardens. They know how to can, dry and preserve their foods. Enough vegetables are raised, but from November to the last of February there are practically no fresh vegetables that can withstand the cold weather. The vegetables as well as fruits consumed are these that have been canned the previous summer. Vegetables and fruits are chiefly important because of their vitamins and other constituents. The selection of fruits and vegetables with reference to their cost depends upon the season of the year and other conditions that affect market prices of these foods.

According to Table I, a great amount of money is spent for cereals, sweets, and fats as well as breads. This amount is rather high because in the diet which is a restricted diet there is rigidly limited choice. This type of diet according to some authorities should be comprised mostly of cheap sugars and fats and starchy food which provide fuel and some proteins at lowest cost. Grain products sweets, and fatty foods are high in calories are not only cheap energy foods but are important for protein too, and those made from the whole grain or from most of the grain are valuable for some of the vitamins and for iron as well. Thus since these people have such a small income it is possible to get an adequate diet only through the restricted diet. This diet is not such a good one because it may not provide a sufficient surplus of protective foods as (milk, eggs, tomatoes, and green vegetables) to insure good health over an indefinite period.

Apparently very little money was spent for sugars or fats but some of those families raise sorghum and ribbon cane from which syrup is made and used throughout the year. Their food is sometimes cooked and flavored with this syrup. As far as fat is concerned these people raise some hogs. From them they are able to get some of the fat needed, especially in winter. A large amount of lard and other inexpensive fats in low-cost diets brings up the calories cheaply and allows for baking and frying to increase the palatability of meals.

It was found that few of the families had cows that supplied enough milk for a quart a day for the children and a pint a day for each adult. This is an indication of the fact that all of the family members did not have a sufficient quantity of milk, which means also that unless the food constituents found in milk are supplemented, the diet will not reach the requirements. For all individuals of all ages and families of all incomes, milk and cheese are of prime value. No other single food has as much to offer to good nutrition as milk and its products.

Nutritional Requirements Met.

The occupations of these Negro families are constant because the husbands are farmers and the wives are housekeepers. Their occupations are permanent also. For these housewives, housekeeping means caring for the children, the home, the poultry, garden, and the cows where milking is done. If the children do not do it before going to school it is a job of the mother. The farmers job is seasonal or whenever the weather is favorable. Most of them work about twelve (12) hours each day. Their work is strictly muscular. The children who are scholastic age go to school from eight thirty in the morning to four o'clock in the afternoon. Out of the ten families studied, six children carry lunches, two eat no lunch until after school, and two go home for hot lunch. While at school some of them have jobs. Upon returning home the children assist their mothers with home chores. Thus, it is clearly seen that these family members are fairly active. This activity calls for a heavy diet. The ages of the children range from two to twenty-one. Many of these children are at their greatest stage of physical and mental development. Their bodies require building foods as well as food for maintenance. The amount of money spent for food is on an average one hundred-fifty-one dollars and sixty cents (\$151.60) per year for each family. The average family contains six (6) persons. This means that the amount of money spent for food for each person is twenty-five (\$25) per year.

This amount is too small to exist upon, especially for these people, but they produce many of their foods. In this case there is a problem of production, selection and preparation.

According to Rose, Mary Swartz, "Feeding The Family", a man doing severe muscular work as these farmers are doing should have from 3400-4400 calories per day. The child is a growing individual and as soon as he is able to masticate his food properly, there are certain dietary factors that should be considered. The calories for the child are best utilized if secured from milk, eggs, tomatoes, and green vegetables.

The pre-school child's calories varies with his age and weight. The growing child's caloric requirements vary from 1100-2350 calories per day.

Intelligent food selection for diets of any cost depends on some knowledge of food valued. Growth, vitality, and the ability to be active depends on having the diet foods that serve all of the necessary purposes. Though some foods are valuable for more than one nutritive quality, no single food or single group of foods furnishes all of the kinds of building regulatory, and energy yielding material in an ideal proportion for the human body.

Quality and Quantity of Food Actually Consumed

Necessity demands that these rural people produce most of their food products, thus they have become versatile in the kinds of crops they raise. There is enough variety in food products that are produced to provide an adequate diet containing all of the food constituents. The food products most commonly raised are tomatoes, cucumbers, lettuce, turnips, mustard, spinach, beets, carrots, chard, potatoes (sweet and white), peas, beans, collards, onions, radish, peanuts, cabbage, squash, watermelon, cantaloupes, okra, and corn. Not only do some of the people raise a variety of vegetables, but they also raise fruit. The fruits raised are apples, pears, and peaches. Figs, apricots and plums are raised in small quantities. If these foods were raised in sufficient quantities a very adequate diet would be the result. The quality of these foods is as good as any produced anywhere, but as soon as any of these foods reach the point where there is a little too much for a particular time, the people think in terms of selling their food. Thus they sell their best products and those remaining are often very undesirable for consumption.

All of the ten families studied served their meals three times daily. The noon meal was the heaviest meal served. The following table shows how and what methods were used in serving this food. Table II shows that there is little variety

TABLE II.

ty used in preparation of the foods. For example, meat is boiled, vegetables and fruits are boiled and in some cases the cereals are boiled. Whether or not the persons used the correct time for cooking their foods is not known, but it is known that in the boiling process many foods lose their water soluble constituents.

Table II reveals the fact that the foods are served enough times per day and there is a division of the food that should make each meal adequate in caloric value. The methods of preparation is the most important single factor facing these individuals. There are many methods that could be used in preparing the foods these rural people have that would make more palatable meals, more easily digested foods and food with constituents that would not be lowered by improper preparation. Since there is such a large field from which to choose foods, wise selection will improve the diet and make it a very healthful one.

Columns numbered (1) represent the number of times these foods are served daily.

TABLE II.

FOODS SERVED BY TEN RURAL FAMILIES

Family No.	Fruits	(1)	Vegetables	(1)	Meat	(1)	Cereals
A	Raw Steamed	3	Boiled	1	Boiled Baked	1	With Cream With Fruit
B	Stewed Fresh	3	Boiled	2	Baked	2	With Fruit
C	With Milk	1	Stewed	2	Fried Baked	2	Steamed
D	Stewed	2	Baked Stewed	1	Boiled Fried	1	With Cream With Fruit
E	In pies	1	Stewed Fried	2	Fried Baked	1	With Gravies
F	Fresh Stewed	1	Stewed	1	Boiled Fried	2	With Gravies
G	Raw Desserts	1	Boiled	1	Fried	1	Boiled With Meats
H	Raw Stewed	2	Stewed Fried	2	Boiled	2	With Cream
I	Fresh Desserts	1	Boiled	2	Baked	1	Boiled
J	Fresh Desserts	1	Stewed Baked	2	Fried Baked	2	As Bread

(Note: This Table shows the food group served by rural people. Columns numbered (1) represent the number of times these foods were served daily.)

of vitamins A and D. No child should be without some adequate source of vitamin D in early life to prevent rickets. In addition of these foods, substances had a tendency to improve the physical well-being, regulatory and energy-yielding properties. It is an excellent source of protein. This protein can be used for building muscles. It is the best food for calcium or lime that is needed for the building of good teeth and bones and for the upkeep of those hard structures throughout life. Milk also contains phosphorus and other minerals in considerable amounts and has in it some of the vitamins. For vitamins A and G, milk is an important source." ³ It has sufficient quantities of substances that prevent eye abnormalities, rickets, and malnutrition. Leafy, green, and yellow colored vegetables as tomatoes, and the citrus fruits are among the most highly valued of all vegetables and fruits for vitamins and minerals. They furnish vitamin A, B, and G. Eggs, lean meat, and poultry and fish contain the pellegra-preventing factor, and eggs are particularly food for vitamin G. They are valuable for iron, and salt-water fish for iodine. Eggs, liver and other glandular organs are better in vitamin and mineral values than are some of the other meats and fish. These foods should be included in the diet to prevent enemia, and pellegra.

All cooking and table fats and fatty foods are good fuel sources. The fats may be cod-liver oil and other fish liver oils, These fats may be used as sources

of vitamins A and D. No child should be without some adequate source of vitamin D in early life to prevent rickets. An addition of these food substances has a tendency to improve the physical well-being. Upon studying these families it was found that the necessary foods were included in the diets but the quantities were so small that a deficiency disease resulted in most of the families.

TABLE III.

DEFICIENCY DISEASES PREVALENT IN THESE RURAL HOMES AS A RESULT OF
FAULTY DIET ALONG WITH OTHER FACTORS

Family No.	Decayed Teeth		Pellegra		Colds		Eye Blindness		Bone Abnormali- ties		Over- weight		Under- weight	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F
A	1												1	1
B	1	1	1	1	1	1						"	1	1
C						1						1		
D	1	3	1	1			1							2
E		1										1		
F			1				1							2
G	1	1	1		1			1		1				2
H		3	2											1
I	1	1	1			1	2	1	1					1
J		1	"			1				1	1			1

(Note: This table shows the deficiency diseases prevalent in the ten families studied. The numbers represent the numbers of people in each family, male and female, who have the disease.)

SPECIFIC FACTS AND SUGGESTIONS FOR IMPROVEMENT

OF THE RURAL DIET

"It is of vital concern to persons of small income to know how to meet their nutritional needs as as low a cost as possible. Without such knowledge, they are likely either to spend too large a proportion for specific foods as meat or to have a diet which will not supply the nutritive material necessary to build strong bodies. It requires careful selection of foods, economical buying and control of waste in order to secure an adequate diet on a limited amount of money."¹

"Family diets may vary considerable in cost and still be satisfactory for good nutrition. Diets may differ, as well, in the type and the quality of foods they contain and these diets may be desirable provided the assortment is wisely selected. A good diet depends not so much on the amount of money it costs, as on the nutritive value of the foods selected for it. Wise selection is especially important when the income is limited. The low income family must be constantly alert to the need of selection the most nutritious of the expensive foods."³

Along with improved production people should reduce their food costs by using more of less expensive foods that supply the correct nutritive values. Since they buy their accessories, and in many cases they buy their cereals and some of their staples

they may improve their diet by ^{the} selection ^{of} foods that are inexpensive sources of energy. There may be substitutions made of cheaper for more expensive foods in the same group. Waste is eliminated by preserving foods when they are in abundance and in buying or marketing common sense should guide one as to buying ready cooked foods and those in beautiful containers often demand a price not for the food but for the process through which it has passed or the container in which it is packed. Waste in the kitchen also represents a money loss with no compensating return, nutritive or otherwise. These wastes are a result of not utilizing left-over foods, in discarding portions of foods which have nutritive value and by allowing foods to spoil.

Food selection and preparation are based on an understanding of our dietary needs. Without this understanding we cannot choose an adequate diet. This has been found to be true. An adequate diet must have carbohydrates, proteins, fats, minerals, vitamins and water in sufficient quantities and qualities so as to qualify as perfect foods. From a nutritive standpoint, a material must furnish all essential constituents in such proportions that it meets all body needs equally well. No single food does this. As a con-

sequence we must conserve variety so chosen that the abundance of certain essentials supplied by one food will supplement the deficiencies of the others." ⁴

Palatability is an important factor in the regulation of the amount as well as the kind of food consumed by many people, but, just as food preferences of food to be eaten. Appetites overstimulated by palatability are often responsible for improper diet.

The diets of the rural families can be made adequate by properly planning the meal, wise combinations of foods, and attractively serving well prepared food to provide the conventional three meals each day. These meals must provide nutritive quality sufficient to meet the needs of each individual. That means that for the average adult the meals should guarantee the following foods for an adult daily:

Milk:

One quart daily for each young child (to drink or in cooked food.)*

Three-fourths of a quart daily for each child over four.

One pint for each adult (to drink or in cooked food

Vegetables and Fruit:

From three to four servings per person daily.

Eight to nine servings a week of potatoes and

sweet potatoes. (Once a day, sometimes twice)

Two to three servings a week of tomatoes (or of citrus in season) for each adult and child over four; four to six tablespoons of tomato juice or two tablespoons of orange juice daily for each child **under** four.

Five to six servings weekly of leafy, green or yellow vegetables.

Two to three servings a week of dried beans, peas or peanuts.

One serving daily of fruit or an additional vegetable.

Eggs:

Two to three a week for adults; four to five for young children; a few in cooking.

Meat or fish:

Three to four times a week (more frequently if the meat dish is often a meat and cereal combination)

A cereal dish:

Once daily, sometimes twice.

Bread:

At every meal.

Dessert:

Occasionally; about once a day if desired, such as cereal pudding, cookies, simple cakes, dried fruit or other inexpensive kinds.

TABLE IV.

SUGGESTED WEEKLY PLAN FOR A
MEDIUM-COST ADEQUATE DIET

The problem of planning meals for a family is complicated but may be solved by planning part of the meal to include foods suitable for the needs of the most exacting members of the family then adding desserts or other dishes to furnish additional energy that other members of the family may require.

MILK:	Fluid milk or corresponding quantity of canned or dried milk, or cheese.	17 qt.	1 qt.	36 qt.
VEGETABLES AND FRUITS:				
	Tomatoes and sweetpotatoes	11 lb.	3 lb.	19 lb.
	Tomatoes and citrus fruit	4 lb.	2 lb.	7 lb.
	Leafy, green, and yellow vegetables	7 lb.	5 1/2 lb.	12 lb.
	Dried beans and peas, nuts	1 1/2 lb.	1 lb.	3 lb.
	Other vegetables and fruit	7 lb.	4 lb.	11 lb.
EGGS:		1 1/3 doz.	2 1/3 doz.	2 1/2 doz.
LEAN MEAT, POULTRY, AND FISH		6 1/2 lb.	5 lb.	7 lb.
GRAIN AND CEREALS:				
	Flour, corn meal, rice macaroni, spaghetti, and assorted breakfast cereals, white and whole grain breads, other bakery goods and cereals	15 lb.	3 lb.	24 lb.
FATS:				
	Butter, margarine, lard, oil, vegetable shortening, salt pork, and bacon.	3 1/2 lb.	2 lb.	5 1/2 lb.
DESSERTS:		5 1/2 lb.	2 lb.	5 lb.
		45 cents worth	30 cents worth	55 cents worth

TABLE IV.

SUGGESTED WEEKLY PLAN FOR A
MINIMUM-COST ADEQUATE DIET³

What to include	How much to include for a--		
	Family of 4 (2 moderate-ly adults, a boy, a girl.)	Family of 2 (2 adults)	Family of 7 (2 moderate-ly active adults, a girl 15, boy 10, girl 15, child 3)
MILK:			
Fluid milk or corresponding quantities of canned or dried milk, or cheese.	17½ qt.	7 qt.	35 qt.
VEGETABLES AND FRUITS:			
Potatoes and sweetpotatoes	11 lb.	6 lb.	19 lb.
Tomatoes and citrus fruit	4 lb.	2 lb.	7 lb.
Leafy, green, and yellow vegetables	7 lb.	3½ lb.	12 lb.
Dried beans and peas, nuts	1½ lb.	1 lb.	3 lb.
Other vegetables and fruit	7 lb.	4 lb.	11 lb.
EGGS:	1 1/3 doz.	2/3 doz.	2½ doz.
LEAN MEAT, POULTRY, AND FISH	4½ lb.	3 lb.	7 lb.
FLOUR AND CEREALS:			
Flour, corn meal, rice macaroni, spaghetti, and assorted breakfast cereals, white and whole grain breads, other bakery goods and crackers	15 lb.	8 lb.	24 lb.
FATS:			
Butter, margarine, lard, oil, vegetable shortening, salt pork, and bacon.	3½ lb.	2 lb.	5½ lb.
SUGARS	3½ lb.	2 lb.	5 lb.
ACCESSORIES	45 cents worth	30 cents worth	65 cents worth

V. SUMMARY

From this study no definite conclusions have been drawn because it is the only study of this kind that has been made in this community or county. If several studies were made there might be a possibility of drawing definite conclusions. The aim of this study is to form a basis of procedure in working out a method for these families by which they may improve their diets so as to reduce deficiency diseases and to improve their physical conditions.

In this study it was found that too much of the food expenditures was for meat and that not enough money was spent for milk, eggs, vegetables and fruits. These foods, milk, eggs, vegetables, and fruits were consumed in the smallest of quantities in most of the families.

From the study of ten families the writer found that in every family some type of deficiency disease existed. It was also found that the diseases most prevalent were decayed teeth, colds, and underweight. It is obvious that reduced incomes and low food production as well as general economic distress so prevalent among Negro families have

added to the number of malnourished family members. According to the study the main causes of malnourished individuals are:

1. Faulty diet. Their diets are insufficient in amount and inadequate in kind.
2. Physical defects. These are caused by this diet which handicaps their becoming properly nourished.
3. Absolute poverty. This exists as a result of low food production, poor management of income and improper care of the foods produced.

This study is meager, but it is hoped that it will serve as a stimulus to more work on the same problem. With this aim in view all efforts have been directed toward organizing an embryonic study for further development.

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PHYSICAL STATE

1. Size of Family

1. Number of children: Males _____ Females _____

2. Age Range of Children: M _____ " _____

3. Activities of Children:

a. Going to school: Males _____ Females _____

b. Pre-school: " _____ " _____

2. Health of Family Members

1. Are all of the family members average weight?

1. Number overweight: Males _____ Females _____

2. Number underweight: " _____ " _____

A P P E N D I X

1. Do any of the family members have decayed teeth?

If so how many? Males _____ Females _____

2. Do any of the family members have pella? _____

If so how many? Males _____ Females _____

3. Do any of the family members have rickets? _____

If so how many? Males _____ Females _____

4. Do any of the family members have colds continuously? _____

If so how many? Males _____ Females _____

5. Do any of the family members have bone abnormalities? _____

If so how many? Males _____ Females _____

6. Do any of the family members have eye blindness? _____

If so how many? Males _____ Females _____

QUESTIONNAIRE

I. Size of Family

1. Number of children: Males _____ Females _____
2. Age Range of Children: M. _____ " _____
3. Activities of Children:
 - a. Going to school: Males 300 Females 666
 - b. Pre-school : " _____ " _____

II. Health of Family Members

- A. Are all of the family members average weight? _____
 1. Number overweight: Males _____ Females _____
 2. Number underweight: " _____ " _____
- B. Do any of the family members have decayed teeth? _____
- C. If so how many? Males 666 Females _____
- D. Do any of the family members have pellegra? _____

If so how many ? Males _____ Females _____
- E. Do any of the family members have colds continuously? _____

If so how many? Males _____ Females _____
- F. Do any of the family members have bone abnormalities? _____

If so how many? Males _____ Females _____
- G. Do any of the family members have eve blindness? _____

If so how many? Males _____ Females _____

III. Occupation

1. Husband _____ Wife _____
2. Does the husband work seasonally? _____ Monthly _____
S= _____
Weekly _____ Daily _____
3. Does the wife work seasonally? _____ Monthly _____
Weekly _____ Daily _____
4. How many hours does the husband work daily? _____ Wife _____
5. Is your job permanent? Husband _____ Wife _____
" " " semi-permanent? " _____ " _____
6. Do any of the children work? _____ What kind of work? _____

IV. Income

A. From Family

1. About how much do you make a week? _____
Wife _____ Husband _____
2. Is there any income from children's labor? _____
How is their income used? _____

B. From Farm Products

Do you sell farm products? _____ What products? _____

1. Do you have a cow? _____ Do you get enough milk to supply one pint of milk for each adult daily? _____ One quart of milk for each child daily? _____
 2. Do you have hogs? _____ Do they supply enough meat? _____ Enough lard _____
 3. Do you have a garden? _____ Seasonal? _____
Year-around? _____
 4. What products do you raise in this garden? _____
-

Are there enough vegetables for the yearly consumption? (2 vegetables beside potatoes including one green leafy vegetable daily)

_____.

4. Do you have poultry? _____ Do they supply enough eggs for family consumption? (One egg daily for each individual) _____

Do you have enough chickens to eat at intervals _____

5. Do you have an orchard? _____ What fruits are gotten from the orchard? _____

Does it supply enough fruit for yearly consumption? _____ For canning? _____ For Sealing? _____

V. Expenditures for Food

A. How much is your average weekly expenditure for food? _____

1. Meat _____ 2. Fruit _____ 3. Vegetables _____

4. Cereals and bread _____ 5. Milk _____

B. Do you buy canned foods? _____ How much? _____ What foods? _____

VI. Service of Food

A. How many meals do you serve daily? _____

B. What meal is heaviest? _____

C. How do you generally prepare your meats? _____

Fruits? _____

Cereals _____ Vegetables _____

D. How many times daily do you serve meats? _____

Fruits _____ Milk? _____ Cereals and bread? _____

Vegetables? _____