

T H E S I S

FARM FAMILY LIVING
IN THE NORTHERN COLORADO
IRRIGATED DISTRICT

Submitted by
Ralph W. Roberts

In partial fulfillment of the requirements
for the Degree of Master of Science
Colorado State College
of
Agriculture and Mechanical Arts
Fort Collins, Colorado
May, 1938

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ENTITLED **FARM FAMILY LIVING IN THE NORTHERN COLORADO
IRRIGATED DISTRICT**

BE ACCEPTED AS FULFILLING THIS PART OF THE REQUIREMENTS FOR THE
DEGREE OF MASTER OF **Science**

MAJORING IN **Sociology**

CREDITS **12**

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ACKNOWLEDGMENTS

The writer wishes to express his appreciation to the following persons for their interest and constructive criticisms, which have helped in making this study possible: Mr. Olaf F. Larson, Associate in Sociology, Colorado State College; Mr. Llewellyn A. Moorhouse, Professor of Economics, Sociology and History, Colorado State College; Mr. William B. Bjornstad, Instructor in English, Colorado State College; Mr. Gilbert L. Betts, Supervisor of Graduate Research in Education, Colorado State College; Mr. Elmer J. Meadows, former Larimer County Extension Agent; Mrs. Carmen Johnson, Larimer County Home Demonstration Agent. He wishes also to acknowledge his obligations to those farm families who cooperated in providing the information upon which this thesis is based.

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CHAPTER I

INTRODUCTION

BACKGROUND OF THE PROBLEM

Of the many fundamental problems confronting us today, perhaps few are so important to our national well-being as the condition of agriculture and the farm population which in reality is vital to our existence. Consequently, the study of rural society and of the human side of agriculture is both pertinent and necessary in formulating a complete and workable program of national economic and social action. This fact was realized by President Theodore Roosevelt when in 1908 he appointed his now famous Country Life Commission, saying, "Our civilization rests at bottom on the wholesomeness, the attractiveness, and the completeness, as well as the prosperity of life in the country." ¹ Since the report of that commission, there has been a significant national interest in the problems and welfare of rural people, and out of this interest has originated the American Country Life Association, which promotes discussion of the problems of country life and facilitates their solution in aiding rural improvement.

The past decade has seen a growth of significant interest in the study of rural problems centering in farm standards of living as evidence of rural well-being.

¹ Report of The Country Life Commission, Sturgis and Walton, New York, 1917, p. 44.

Particularly since the World War with the changing economic conditions and rapid changes in habits of consumption has more attention been devoted to the study of the prevailing standards of living. There is an increasing recognition of the uses of such material in dealing with the current social and economic problems in planning for commodity production and distribution, in education, in household purchasing and consumption, and in making use of home resources.

Prevailing standards of living have been described and portrayed for many states, but Colorado is among those remaining few in which little attention has been devoted to this important phase of social improvement. In view of the fact that there is increased interest in a more adequate and efficient way of living, it is high time that some information should be gathered to show what families or groups of families in Colorado do in regard to the uses of foods, clothing, shelter, and other less material goods and services. Such information furnishes a background for taking advantage of suggested means for improving farm family living. The spending of the family income is today largely in the hands of the homemaker, and the management of it involves much more than going shopping and paying bills. Knowledge of how and for what the available money is spent is essential to wise management. It involves the weighing of needs and desires, the making of decisions and choices

and the careful consideration of their effect upon the life of the family.

Plans for the future agricultural activities of the state center around the possibilities for satisfactory living on the farm. It is believed that, through the cooperation of farm families in supplying information concerning the present cost and quality of rural living, valuable information can be obtained and published for the benefit of those interested in comparing their living with that of others for the purpose of better balancing their distribution of expenditures for family living.

PURPOSE OF STUDY

Since this is the first sociological study of farm family living attempted in Colorado, it is felt that no definite conclusions pertaining to a measure of the standard of living of the families interviewed are justified, but that attention should be more concentrated on deriving a comprehensive and satisfactory method of study adaptable to Colorado farm families. An analysis of the material gathered in this study will be presented principally for the purpose of providing an index indicative of what might be expected with regard to Colorado farm families from a study sufficiently extensive in scope to justify constructive conclusions.

This study was undertaken:

First, to develop and test a method for

studying farm family living in Colorado; Second, to analyze in detail the aggregate family living of a group of farm families located in one of Colorado's major type-of-farming areas. The analysis will provide as complete a picture as possible of the content of living of the group, will indicate variations in the distribution of family expenditures among the various goods and services used, and will enable comparisons with the living of families in other areas.

The writer wishes to stress that the limitation of this study is such that comparisons of this material with that presented in studies of other states, for the purpose of measuring the standards of Colorado farm families in general, are unjustifiable. However, it is hoped that this preliminary work will stimulate discussion and study of standards of living in Colorado.

REVIEW OF LITERATURE

Studies of family living have been made in the United States ever since the close of the Civil War. These first American studies were concerned primarily with the relationship between capital and labor as it influenced the living conditions of the working classes.

Since a great amount of the material dealing with family living is either not available or would need to

be translated from the original French and German manuscripts, use has been made of the resumes of these early studies which have been made by recognized authorities of family living. Carle C. Zimmerman and Merle E. Frampton together prepared the manuscript, Family and Society, and Zimmerman has prepared a detailed report of the common theories of consuming habits and standards of living; his manuscript is entitled, Consumption and Standards of Living. These two studies are the most complete reviews of the progress of investigation in family living and are used as a basis for this review of literature primarily because they contain a resume of material not available in the original copy. Zimmerman's and Frampton's material provides an analysis of the common concepts of consumption and living together with a review of investigations which have been carried on both in the United States and in other countries. Particular attention has been given to the works of Frederic Le Play and Ernst Engel which have contributed greatly to the current methods of investigation and analysis of family living.

Among the earlier American students of family living were John Rae (1786-1872) and M. C. Carey (1793-1879). However, the work of these two men was closely related to economics and government; their work was generally considered as theory in the field of political economy, and the manuscripts of both are entitled, Principals of

Political Economy. Rae advanced the theory that "the amount expended for necessities tends to become proportionally less while that for luxuries increases."² Carey stimulated much thought concerning the wages and conditions of the laboring classes, and set forth the idea that "man desires to maintain and to improve his condition."³ Carey was among the first American students of family living to use the term "standard of living".

Many early European studies of expenditures for family living have been preserved, some dating as far back as the year 1400. However, the European works do not have any significant bearing on American family living studies except those made in Europe by Frederic Le Play (1806-1882) and Ernst Engel (1821-1896). Le Play's manuscripts entitled, Les Ouvriers Europeens, and, Les Ouvriers des Deux Mondes, contribute much in the field of methods of study. Engel concentrated his attention on the method of data analysis rather than on the methods of collecting the data; in his reports entitled, Die Lebenskosten, Der Kostenwerth Des Menschen and Das Rechnungsbuch Der Hausfrau und Seine Bedeutung im Wirtschaftsleben Der Nation, he introduced the use of statistical measurements as a means of accurate analysis of the material well-being of a family or a group of

² Zimmerman, Carle C., Consumption and Standards of Living, Van Nostrand Company, New York, 1936, pp.461-462.

³ Ibid., p. 462.

families. A more detailed account of the Le Play and Engelian methods of investigation and analysis will be given in a later section of this thesis.

Since 1900 about five hundred family expenditure studies have been made in the United States. Most of these have been concerned only with the goods and services consumed by the families investigated, but a few have included other aspects of family living. Since existing studies are too numerous to list and discuss in detail, the writer chooses rather to mention a few of the more important contributions in the field of standards of living with particular reference to those dealing with the farm family and its standard of living.⁴

In 1901 the United States Department of Commerce and Labor studied the families of 25,440 wage-earners, low-salaried employees, tradesmen, and professionals. All investigations were limited to those families whose earnings were under \$1200 a year. The report of this study is entitled, Cost of Living and Retail Prices of Food. In 1904 Louise B. More made a study of the living cost of some two hundred families on the lower west side of New York City; the report of her study was entitled, Wage Earners' Budgets: A Study of Standards and Cost of Living in New York City. The families selected for study

4 See Williams, Faith M., and Zimmerman, Carle C., Studies of Family Living in the United States and Other Countries, United States Department of Agriculture, Miscellaneous Publication No. 223, Washington, 1935.

were those acquainted with the investigator and were quite willing to cooperate in the study. In 1907, Robert C. Chapin conducted a study of four hundred families in New York City. This study was the outgrowth of a request for such an investigation by the New York State Conference of Charities and Correction. The report of this investigation is entitled, The Standard of Living Among Workmen's Families in New York City. Shortly after this period of investigation, F. H. Streightoff assembled and analyzed all available data on living conditions and costs of industrial people in America. This study entitled, Report on The Cost of Living, was sponsored by the New York State Factory Investigation Commission and sought to determine the amount of income necessary for life in simple decency among industrial workers.

The next series of studies of any importance began after the close of the World War and gave rise to a new group of students of family living who were particularly interested in bringing the rural family and its standards of living to public attention. Ellis L. Kirkpatrick began his investigations of farm family living and contributed the most complete set of data currently available. His study entitled, The Farmer's Standard of Living, describes the spending and consuming practices of 2386 farm families of selected localities in eleven states and covers the period, 1922-1924. At this same time, Carle C. Zimmerman and John D. Black began a series of

investigations of farm families. The more important of these studies are entitled: How Minnesota Farm Family Incomes are Spent; An Interpretation of a One Year's Study, Family Living on Successful Minnesota Farms, and, Factors Affecting Expenditures of Farm Family Incomes in Minnesota. These principal contributions along with other studies of standards of living of families of various income levels in cities, towns and villages, and rural areas, have provided sufficient material to enable broad rural-urban comparisons of family well-being. Future investigators should have sufficient background material already gathered to enable more direct and specific attention to current problems of farm family consumption and expenditure than has heretofore been possible, primarily on account of the lack of available data. Many agencies in many states are sponsoring investigations into family living costs and expenditures, and such organizations as the Social Science Research Council and the United States Department of Agriculture, Bureau of Home Economics, are circulating monographs outlining methods of studying various aspects of family well-being. Such contributions as Carle C. Zimmerman's Consumption and Standards of Living, and Carle C. Zimmerman's and Merle E. Frampton's Family and Society, with their clear discussions of development in methods of investigation, have done much to promote greater interest in scientific investigations in family living. Ellis L. Kirkpatrick

was one of the first contributors of material dealing solely with farm families which has served as a timely answer to those who would know more about the true state of affairs on our farms and in our agricultural communities. His complete report, The Farmer's Standard of Living, based on six years of scientific study in the field of farm family living, presents the most outstanding information available on all the elements that enter into a standard of living, such as income, housing, food, education, religion, and recreation. It is also appropriate to include in this resume of material the contribution of Robert S. Lynd and Alice C. Hanson to the report of the President's research committee on social trends.⁵ This material describes in detail the trends in family habits of buying and consuming.

Although all material dealing with family living has not been mentioned in this review, the writer feels that the more important studies have been recognized, particularly those dealing with the farm family and its standard of living.

DEFINITION OF TERMS

For the purpose of this study the term standard of living is defined as the variety, quantity, and quality of goods both purchased and furnished, used to meet the

5 "The People as Consumers", of Recent Social Trends in the United States, McGraw-Hill, New York, 1933, Chapt. XVII, pp. 857-911.

physical and social needs of individual families or groups of families, on the average. Among these goods are food, clothing, housing, furnishings, household operation, education and advancement, religion, community participation, insurance and savings, and personal. Family living implies a content of living, or goods used for living purposes.

Cost of living is a measure of the value of farm family living, the cost of goods and services both purchased and furnished will be used. Cost includes the cash expenditure plus the estimated value of goods produced and consumed at home. In using cost as a measure of living in this study, it is possible only to regard the goods and services consumed as basic with no attempt to measure the degree of proper use made of these basic needs. Therefore, the comparisons made through the use of cost or value as a measure will be in terms of the total value of family living as indicated by the distribution of this total among the principal groups or goods and services consumed or used by the farm families.

The schedule is the list of questions or items which has been prepared for the purpose of recording the specific information desired. In this study, attention was particularly given to the degree of adequateness of the schedule and its adaptability to extensive use in studies of farm family living in Colorado.⁶

⁶ See appendix for copy of schedule used in this study.

A farm family, generally speaking, consists of a husband and wife, with or without children, or of either parent with children, living on a farm. However, for the purpose of this study, all individuals, not necessarily related, living together as a unit, were considered as making up a family. In following this policy it was made certain that all persons in the family group were included in the same food budget. There were a few cases where hired men lived in the family a part of the year. In these cases the food estimates included the hired men, but none of the other items of expenditure included hired men.

The farm operator and homemaker in each family are usually also husband and wife respectively and have final authority in farm and family matters. The farm operator is the person responsible for the activities of farming, and, parallel to this, the homemaker is the person responsible for the domestic duties within the farm home.

The farm consists of all land operated by the farm operator in each family, either with or without the assistance of the members of his family, or hired persons living outside his family. The land operated by a partnership within the family is also considered as one farm. A farm may consist of more than one tract and may be operated under different tenures.

7 "Definitions", Fifteenth Census of the United States, Agriculture Volume III, Part 3, 1930.

A farm owner is a farm operator owning all or a part of the land he farms.

A farm tenant is a farm operator not owning any part of the land he farms. All classifications of families into owner or tenant groups were determined by the tenure status of the farm operator in each case.

Purchased living consists of the estimated amount of cash expended for the goods and services consumed and used.

Furnished living consists of the estimated value of all goods produced on the farm and consumed in the home. Attention is called to the policy followed of estimating the values on the basis of what the goods would have sold for at the local market rather than what they would have cost had they been purchased. Although housing facilities afforded by the farm dwelling cannot be considered as furnished by the farm in a true sense of the meaning of the term furnished, neither is it proper to consider the use of the farm dwelling as something purchased so far as rent for one year is concerned. Following the policy used in many farm family living studies, 10 percent of the estimated value of the farm dwelling was arbitrarily taken as the annual value of rent. This percentage also includes taxes, insurance, repairs, and interest on the investment.

8 Kirkpatrick, Ellis L., The Farmers Standard of Living, Century Company, New York, 1929, p. 127.

The schedule year consists of the period of time covered by the study. This study covers the twelve-month period September 1, 1936, to August 31, 1937. This period will be referred to throughout this thesis as the schedule year.

The aggregate family living consists of the wide range of items entering into the family living. In general, no completely uniform scheme of classification of these goods, facilities, and services has been devised for previous study. However, available studies show that the classifications used have been fairly uniform for food and clothing, although these are frequently subdivided differently. The items which are most difficult to classify and which seemingly are most divided are those related to less material or cultural needs. Various terms have been used to describe this group of goods, but the one most generally used appears to be "advancement." Usually there are no rules involved so important that the classification of the items in one way or another is absolutely essential to the value of the study itself. The trouble comes from the fact that there is as yet no general agreement and consequently no assurance that the classifications used by the different authorities give generally comparable results, although in general the conclusions of the different authorities may be sound and similar. The classification of farm family living goods used in the analysis of the data in

this investigation follows very closely that used by Ellis L. Kirkpatrick in his studies.⁹ The following outline shows the main groups of goods classified, together with the lists of goods and facilities included in the main group as used in analyzing the material in this study.

CLASSIFICATION OF FARM FAMILY LIVING GOODS

1. Food includes meats, poultry and dairy products, syrups, honey, flour, vegetables, fruit and nuts, and groceries and other food products, including all food purchased from bakeries and delicatessen stores. Also included are all foods produced and consumed at home. All meals purchased by family members while away from home are included in food costs.
2. Clothing includes all garments and materials purchased, all sewing expenses, dry-cleaning and pressing, and shoe repairing hired or purchased. No account of the time spent by family members in doing any of these tasks was considered in the expenditures and costs.
3. Housing includes taxes, insurance on the dwelling, improvements, repairs, and depreciation on the dwelling during the year; 10 percent of the total estimated value of the farm dwelling is used arbitrarily as the annual cost of rent. For the pur-

⁹ Kirkpatrick, Ellis L., op. cit. pp. 29-30.

pose of this study, all housing was considered as furnished by the farm.

4. Operation includes fuel consisting of coal, wood, kerosene, gasoline, natural gas, etc., purchased by the farm, electricity, water for household purposes, ice, insurance on furnishings and equipment, hired domestic help, laundry supplies, telephone, and repairs on home equipment, soap, matches, and any freight or transportation expenses incurred in connection with family and household business. Automobile operation expenditure has been excluded.
5. Furnishings and portable equipment includes cleaning equipment, furniture, floor covering, ornaments for the dwelling, musical instruments, radio (considered separately from other musical instruments), lighting equipment, tableware, kitchen utensils including canning equipment, electrical appliances, laundry equipment such as washing-machines, irons, ironing-boards, wringers, etc., stoves and heaters, sewing equipment including sewing machines, refrigeration equipment, bedding and household linens, curtains and window shades, and tools for use in the house.
6. Health maintenance, sickness, births and deaths consists of doctors', dentists', oculists', nurses', and hospital services; medicine, supplies, and

appliances; and deaths, including cemetery expenses.

7. Education and advancement consists of expenditures for school books and supplies, tuition, other fees, transportation, and living expenses for family members attending school away from home; reading material such as books other than school books, papers, and magazines; religious and charitable donations, games of entertainment (checkers, cards, etc.); commercial amusements such as moving pictures, plays, dancing; athletics including equipment and attendance, clubs, lodges, and fraternal organizations; and expenditures for vacation and pleasure trips.
8. Insurance and Savings consists of life, health, and accident insurance, savings accounts, and investments in real estate, or any sort of governmental or private stocks and bonds, or interest in any sort of enterprise.
9. Personal includes those items usually considered as used by the individual family members exclusively, such as toilet goods, dentifrices, barbers' services, beauty shop services, personal jewelry, tobacco and stimulants, stationery and postage stamps.

It is not claimed that the foregoing classification is adequate in all respects, but along with the first

purpose of this investigation, namely, to develop and test a method for studying farm family living in Colorado, this trial classification is subject to further development; explanation of several points in connection with its adaptation to this study will be made in the discussion of the method of study used. Among these points to be discussed are the omission of automobile expenditures and the inclusion of water for household purposes as an important item under operating costs.

CHAPTER II

SCOPE AND METHOD OF STUDY

PREPARATION AND ARRANGEMENT OF FIELD SCHEDULE

Systematic studies of farm family living have been made in the United States for the past two decades. Most of them have been concerned primarily with the goods and services consumed and used by the families investigated, but a few have included some aspects of a less material nature. "The methods of collecting data in these investigations have varied all the way from a brief questionnaire sent by mail asking for estimates of expenditures for food, clothing, shelter, and all other items purchased, to a detailed case record kept by an investigator living with the family studied. The majority of studies in this country, however, have used the schedule method, in which information is obtained from each family in one or two personal interviews, with the use of schedules providing entry of the data by a field agent."¹ It is obvious that, because of varying conditions and different agricultural practices throughout the United States, no one schedule form could be devised which would be adaptable to all agricultural local-

1 Woodhouse, Chase C., and Williams, Faith E., Comparison of Schedule and Account Methods of Collecting Data on Family Living, United States Department of Agriculture, Technical Bulletin No. 386, 1933, p.2.

ities. To meet these varying conditions, investigators must follow different procedures in using the schedules as well as in making use of different types of schedules best conforming to the particular needs of the area to be studied. Two distinctly different general methods of study have been used, namely, the record method and the survey method. The record method, as its name implies, involves the keeping of a regular account of all expenditures for family living together with a record of the kinds and amounts of all goods supplied by the farm. These records are kept by a responsible member of the family being investigated, usually with some degree of supervision by the investigator. The schedule, or survey, method consists of personal interviews made by the investigator during which estimates of the quantities and money values of all items entering into the family living are supplied by the homemaker and are entered into a prepared schedule by the investigator. It is not claimed that inaccuracies do not occur, even under the most favorable circumstances, but the assumption is made that the overestimates of some families are compensated by the underestimates of others and that the averages would present in general a true picture.

One of the major purposes for undertaking this

2 See Woodhouse, Chase G., and Williams, Faith M., op. cit., p. 3.

investigation was to develop and test a method of studying farm family living in Colorado. This included the development of a schedule adaptable to use in Colorado, and it is felt that the survey method of study is more appropriate in an attempt at developing a suitable schedule, since personal contact with farm families by the investigator affords a better knowledge of the problems involved. Therefore, the schedule used was developed for the survey method of investigation. The information called for on the schedule developed for this study includes the quantity, kind, and cost of goods and services purchased, the quantity, kind, and value of goods furnished by the farm without direct money payment, and the savings accumulated during the year. Because of the inclusion of the latter items the term "money value of family living" is used throughout this thesis, except where reference is made to actual cash outlay for goods and services, in which case the term "family expenditure" is employed. The contribution of unpaid labor of family members to the family living is not included in the investigation. In addition to the information concerning the strictly material goods used by the farm families, an attempt is made to show the extent of participation in community affairs.

Generally speaking, the schedule developed for use in Colorado varies but little from that used in most farm family living studies. In all classifications of

farm business financing, expenditures fall into the three broad groups of farm operation, farm family living, and investment. However, a problem arises in determining just what should be included in each of these categories, and to what extent specific expenditures should be divided among the three groups. Some policy must be followed in divorcing farm family living expenditures from the farm operation expenditures and farm investments, if it is intended to deal with farm family living only. At best, any classification of expenditures into those of farming, family living, and investment is arbitrary, because of the entrance of the problem of joint costs. For example, expenditures for the purchase of automobiles and trucks may be partly investment and partly replacement, and at the same time this equipment serves both the farm family and the business of farm operation. Colorado agricultural practices are such that a farm truck is considered of as much importance as a passenger automobile or more, and in many cases the truck is of the pick-up type and is used for both farm operation and family use. In the schedule used and the analysis made in this investigation, expenditures for automobile purchase and operation have not been included with farm family expenditures, but will be presented separately, in a brief way, later in this report.

Another item which warrants special mention as peculiar to the Colorado area studied is that of the purchase

of water for household use, due to the unfitness of the available water source on the farm for household use. Although the expenditure for water is not a great item, the common practice of purchasing water makes it significant.

Although the schedule used is less detailed with regard to an account of the items purchased than the schedules used in many recent family living studies, it is felt that the preliminary nature of this study for the purpose of arriving at a suitable method of farm family investigation in Colorado can best be attained by a schedule less detailed in nature.

It is a universal practice in all family living investigations to obtain data pertaining to the composition and characteristics of the families studied as well as to ascertain the tenure status of the farm operator. An attempt was also made to get some data which would indicate the amount of net cash spendable income derived from the farm during the schedule year available for family living. Special significance was attached to the facilities appearing in the farm dwellings together with the size, age, and estimated value of the farm dwelling. No further explanation of the arrangement of the schedule seems necessary, as a detailed account of the classification of the items entering into family living has been given in the section dealing with "Definitions" in the introductory chapter, and the main groups of goods and services appear

in the schedule in about the same order as shown in the outline of the classification.

A combination of the Le Play and the Engelian methods of investigation and analysis is used in making this study. As mentioned in the introductory chapter, the European studies of Frederic Le Play and Ernst Engel during the middle of the nineteenth century gave rise to universally used methods of family living investigation which are recognized by contemporary authorities as sound backgrounds for all modern studies of family living. According to Le Play, the standard of living is closely related to the social structure of the family. Or, as Le Play expressed it, "All of the acts which constitute the existence of a working family sooner or later tend to influence its income and expenses."³ Contrary to Le Play's theory, Engel emphasized the material aspects of living. Engel contended that "an accurate and truthful measure of the material well-being of a people can be provided by calculating the percentage of family expenditures used to buy food."⁴ Le Play, a professor in Paris, started an investigation of the cost of living about 1830. Each year for a quarter of a century he

³ Fimmerman, Carle C. and Frempton, W. L., Family and Society, D. Van Nostrand Co., New York, 1935 p. 473.

⁴ Fimmerman, Carle C., Consumption and Standards of Living, D. Van Nostrand Co., New York, 1936, p. 39.

spent a part of his vacation studying the living conditions of workmen's families in various countries of Europe. His method of study was strictly the case method. After locating families, through the assistance of clergymen and teachers, Le Play made arrangements to live with each family until he obtained sufficient information to prepare a monograph. Le Play emphasized the importance of detailed study of the individual families.

Ernst Engel concentrated his efforts more on methods of analyzing data than in collecting it. He applied the statistical method of analysis to available data, including that collected by Le Play. Through a careful analysis he calculated the distribution of the expenditures among the principal kinds of goods used by families and constructed a table showing the percentage of expenditures for various purposes with laboring class, middle class, and well-to-do families represented. As a result of his calculations and comparisons, Engel formulated several principles which have become known as Engel's⁵ Laws of Consumption.

In combining the general procedures used by Le Play and Engel in their studies, two plans have been followed in making this investigation. In so far as such was possible, the case method was used in collecting information on farm family living in order to make possible

⁵ See Zimmerman, Carle C., op. cit. pp. 39-40 and 375-376

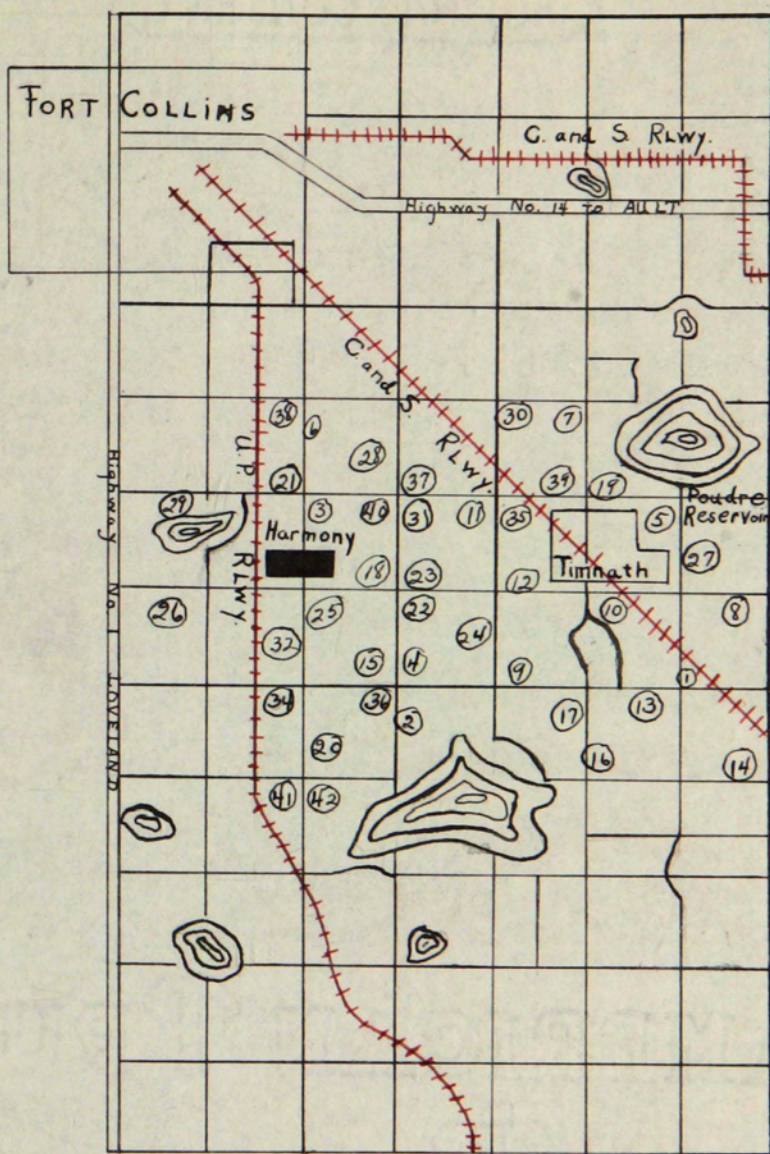
a better explanation of why incomes are spent as they are. The other policy to be followed through the presentation of this material is that of presenting tabulated data affording a measurement of relationships between the groups of items for which the farm family expenditures are made.

SELECTION AND DESCRIPTION OF AREA STUDIED

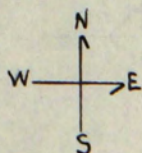
For a preliminary inquiry into the standard of living in farm homes, an area in which there exists something near a uniform level of living appears best. This is particularly true where an attempt is made to determine the adaptability of a method of study.

Conditions in Colorado farm families approaching uniformity seemed likely to prevail in the irrigated farming areas. Therefore a small locality representative of type-of-farming area 9-a, the major area of the northern Colorado irrigated district, seemed appropriate.⁶ The consensus of opinion of county extension agents, the Larimer County Treasurer, and the Larimer County Tax Assessor led to the selection of the Harmony and Timnath district southeast of Fort Collins, Colorado as fairly representative of the type of agricultural activity engaged in by farm families of the northern Colorado irrigated district. It was further determined through estimates that there were approximately eighty-five farm

⁶ See Type of Farming Areas in Colorado, Colorado Agricultural Experiment Station Bulletin No. 418, pp. 62 and 95-102. 1935



Map I Location of Sample Families
within Area Studied



Legend
 $\frac{1}{2}$ inch = 1 mile

families living within the locality selected as typical of the area.

The Harmony-Tignath locality is situated on the western border of the northern Colorado irrigated area consists of about twenty square miles of land.⁷ A good portion of this land, however, is covered by bodies of water stored up for irrigation purposes. The dominant type of crops produced is the cash crop variety consisting of sugar beets, hay, fruit, and vegetables. During the fall and winter months a great number of cattle and sheep are fed and are marketed in the early spring. Poultry and dairy products are produced in marketable quantities. Because of the necessity of irrigation and the type of crops grown, the size of the farms is relatively small, the average size ranging around 100 acres. The land is in a high state of cultivation and is owned for the most part by persons homesteading the land themselves or by their descendants. However, there are a great many absentee owners, and the percentage of renters is relatively high. In general, the area selected for study has an appearance of being well-kept which would be noticeable even to a casual observer.

SOURCE OF STUDY

Data for the study were obtained by the survey method with the use of a schedule. The field work was

⁷ See Map I

conducted during the fall and winter of 1937, and covers the period September 1, 1936, to August 31, 1937. Therefore, all data presented in this thesis pertain to the twelve-month period covered by the study.

The farm families included in this study were selected on the basis of both husband and wife's being represented in the family. It was originally planned to exclude all families not having the farm operator and the homemaker as husband and wife respectively; the purpose for this limitation was an effort further to control the effect which variations in families would have upon the uniformity of practices of the distribution of the family expenditures. However, three exceptions were made to this policy. In one case the wife of the farm operator was deceased and the homemaker was the daughter-in-law. In every case, however, there were both husband and wife represented. In two cases daughters were performing the active household duties and the sons were acting as farm operators, although the parents were living in the family and were considered farm operator and homemaker. A list of names of possible cooperating families was secured from persons familiar with the area to be studied.

As already stated, reliable estimates indicated that there were approximately eighty-five farm families actually engaged in agriculture within the Harmony-Tinnath study area. However, because of the elimination of a few irregular families, for example those in which either the

husband or wife was deceased or had been away during the schedule year, together with a few refusals to cooperate, the number of possible farm families available for study was further limited. It is the opinion of the investigator that the 48 families consisting of 158 persons represented in this study, are about fifty percent of the total number in the area studied.

COLLECTION OF MATERIAL

No claim to absolute accuracy is made in connection with the field data gathered. Results were tabulated from estimates given by individual farm women for the business of the households, with some exceptions where the farm operator also contributed. Although the individual family records may not present a true picture, it is felt that the average of all families studied provides a fair index to the families included in this study and also other families of the same general composition living under similar conditions. While most homemakers kept no accounts of expenditures, practically all were able to give an estimate. Letters explaining the nature of the proposed study were mailed in advance to most of the homemakers whom the investigator expected to interview. A copy of the advanced letter mailed to the homemakers is shown in the appendix. In a few cases, however, the investigator was asked to return later, thereby giving the cooperating homemaker sufficient time to prepare a more accurate account of the household business conducted

during the schedule year.

Four of the farm women called upon refused to cooperate, giving as a reason that it would not be possible for them to provide reasonably accurate estimates. From these no records were obtained. Those who were willing to try to give the information called for had little or no difficulty in furnishing estimates. On the whole it is felt that the reliability of estimated costs and values of living in this study compares favorably with that of those secured in other similar studies.

The adequacy of the schedule used in the study will be taken up later in this thesis along with suggestions and recommendations for alterations in its arrangement.

POLICIES USED IN DATA ANALYSIS

In the main, the analysis of data will consist of statistical tabulations and interpretation and discussion of material for the purpose of presenting, as far as possible, a quantitative analysis of the content of family living; this will be supplemented by descriptive case reports for families in an effort to picture further the prevailing standard of living of the sample group.

In order to get at some uniform method of comparison, throughout the presentation of the material the principal distinction made will be that between the owner and tenant farm operators. Tabulations will also be shown of variations according to size of families and cost of living groups.

Probable errors calculated in two instances for the sample of owner and tenant families indicate that the sample taken provides reasonably reliable data. The standard error of the difference of the two means shows that no comparison of the data of owner and tenant families, for the purpose of drawing conclusions, is justified in this report because the element of chance in the sample most likely accounts for the small differences shown. A description of the statistical method of calculations together with the calculated results are given in the appendix of this thesis.

CHAPTER III

RESULTS OF SURVEY

COMPOSITION AND CHARACTERISTICS OF FAMILIES

In the group of 42 farm families investigated, it was found that a high proportion were operating farms inherited or purchased directly from relatives and that many of the families renting farms were renting from immediate relatives and really were prospective owners of the farms.

Table I. Tenure Status Of Farm Families Studied

All families		Full-owner		Part-owner*		Tenant	
Number	Percent	Number	Percent	Number	Percent	Number	Percent
42	100.0	19	45.2	5	12.0	18	42.8

Tenure Status. Table I shows the proportion of owners, part-owners, and tenants among the farm families studied. Among the cooperating families, 19 or 45.2 percent were full owners, 5 or 12 percent owned a part of the land operated, and 18 or 42.8 percent rented all of the land operated. It was thought just as important to show how well tenants may live as to show how well

*Part-owners consist of those farm operators owning a part of their farm and renting additional land. For the purpose of this study, part-owners will be included with the full-owners.

owners may live; consequently the majority of comparisons made throughout this discussion of farm family living will be that of owner operator family living with tenant operator family living. For practical purposes, part-owner families will be included with full-owner families.

Besides the farm operator and homemaker, and the children of both or either, a small proportion of families included such persons as parents of farm operator or homemaker, sons-in-law and daughters-in-law, other minor children, and hired men. The few cases of miscellaneous persons appearing in families seemingly did not affect the usual distribution of family living. The farm operators averaged about 47 years of age, which was about 4 years more than the average age of the homemakers.

Size of Family. Contrary to general opinion, tenant families were not larger than owner families. However, tenant families reported a greater number of children (persons in the family under 18 years of age), and a smaller number of adult members (persons in the family over 18 years of age), than did owner families. This fact as reported by the farm families studied might indicate that after the children reach the adult stage more of the annual income is available for investment, with the result that farm land is purchased and the family enters the owner class.

Table II. Size Of Family By Number Of Adults And Children At Home, By Tenure Status

Item	Number of Families		
	Total	Owner	Tenant
All Families	42	24	18
Total Persons	158	93	65
Average size of family	3.6	3.9	3.6
Total children*	70	40	30
over 16 years	26	19	7
under 16 years	50	24	26
Total adults**	108	69	39
<hr/>			
Number children per family			
0	6	3	3
1	13	8	5
2	11	7	4
3	8	4	4
4	3	1	2
5	1	1	0

Table II shows that there were 158 persons residing in the 42 families during the schedule year. Owner families average 3.9 persons as compared with an average of 3.6 persons per family for tenants. However, it must be remembered that no special importance can be attached to this difference because the variation is probably due to chance in the selection of the sample. A complete

* Total children refers to children actually living at home during the schedule year.

** Adults include all persons in the family 16 years of age and over.

account of the method of statistical calculation as well as the results of the calculations is given in the appendix. The most frequent number of children appearing in owner and tenant families was 1. However, for both owner and tenant families almost as large a number of families reported 2 or 3 children as reported 1. No data were obtained concerning the number of children living away from home, but statements made by the homemaker at the time of the interview usually included this information, and it is the impression of the writer that the cases reporting children away from home were usually of owner families.

Education of Farm Operator and Homemaker. As noted from Table III, little difference is shown in the amount of schooling of farm operator and homemaker in owner and tenant families, in the lower education attainment groups, that is, below the 10th grade. However, in the higher education groups, 3 owner families report both operator and homemaker as having attained an education of the 10th grade or more together with some college training as compared with only 1 tenant family. In 2 owner families and 1 tenant family, both farm operator and homemaker had one or more years of college training.

**Table III. Educational Attainment Of Farm Operator
And Homemaker By Tenure Status**

Educational attainment of farm operator and homemaker of each family, grouped according to education completed	Total	Owner	Tenant
All families	42	24	18
Both farm operator and homemaker 8th grade or less	16	11	5
Either farm operator or home- maker less than 8th grade and the other 8th grade or more	9	4	5
Either farm operator or home- maker 8th or 9th grade and the other 9th or more	10	5	5
Both farm operator and homemaker 10th grade or more	3	1	2
Either farm operator or home- maker 10th grade or more and the other one or more years in college	1	1	0
Both farm operator and homemaker one or more years in college	3	2	1

**Table IV. Educational Attainment Of Farm Operator
And Homemaker In 42 Farm Families, By Age Group**

Grades com- pleted	Age							
	All ages		Under 35		35 - 55		Over 55	
	Farm oper.	Home maker	Farm oper.	Home maker	Farm oper.	Home maker	Farm oper.	Home maker
Total	42	42	12	15	24	22	6	5
8 or less	32	20	5	3	22	13	5	4
9 - 10	3	13	3	5	--	8	-	-
11 - 12	5	5	4	4	1	1	-	-
One or more years college	2	4	-	3	1	-	1	1

Table IV shows the educational attainment of farm operators and homemakers according to age. It can be seen from the table that the homemakers in all age groups report a higher educational attainment score than do the farm operators. Another significant characteristic indicated in both farm operator and homemaker groups is that the educational attainment is lower as the age increases. This trend might indicate that educational facilities had improved and had become more accessible for the younger farm operators and homemakers. However, the reports of the 42 families studied show that 83 percent of farm operators and homemakers of all ages did not complete an ordinary high school education.

THE FARM DWELLING

Size of Dwelling. The farm dwellings occupied by the cooperating farm families were not new buildings in any case. The average age was about 42 years, since most of them are the original houses built on the farms. Table V shows that the majority of the dwellings were between 30 and 49 years old, and that only 3 have been constructed during the past 19 years. Tenant dwellings show a slightly higher representation in the older age groups. This might indicate that the original farm owners constructing the dwellings have retired from the farm and that the renters of these farms occupy the old dwelling whereas the owners tend to purchase farms having

relatively newer dwellings or have constructed dwellings since acquiring ownership.

Table V. Age Of Farm Dwellings By Tenure Status

Age of dwellings by ye rs	Number of dwellings		
	Total	Owner	Tenant
Total all groups	42	24	18
10 - 19	3	1	2
20 - 29	8	5	3
30 - 39	14	8	6
40 - 49	12	8	4
50 and over	5	3	2

The average number of rooms of the dwellings of farm owners was 6.8; farm tenants had dwellings consisting of 6.6 rooms. The size of farm dwellings ranged from 5 rooms up to 9 rooms with the greatest number reporting 6 and 7 rooms each. Table VI shows the number of dwellings of different sizes for both owner and tenant families. The difference in size of owner dwellings and tenant dwellings appears to have little significance when attention is called to the fact that the average number of rooms per person in tenant dwellings was slightly higher than the same for owner dwellings, the average for tenants being 1.8 rooms per person as compared with 1.7 rooms per person for owners. This fact together with table II showing more adults residing in owner

Table VI. Size Of Farm Dwelling By Tenure Status

Number of rooms per dwelling	Number of families					
	All rooms			Bedrooms		
	Total	Owner	Tenant	Total	Owner	Tenant
2				2	3	6
3				17	10	7
4				11	8	3
5	2	2	6	4	2	2
6	13	8	5	1	1	-
7	10	3	2			
8	8	4	4			
9	3	2	1			
Total families	42	24	18	42	24	18
Average number rooms per family	6.7	6.8	6.6	3.3	3.5	3.0
Average number rooms per person	1.8	1.7	1.3	.9	.9	.8

dwellings indicates that tenant dwellings compare favorably with owner dwellings in size. Table VI also shows the relative adequacy of bedrooms for owner and tenant dwellings. Most families reported 2 or 3 bedrooms per farm dwelling, the range being from 2 to 6 bedrooms per dwelling with an average of 3.5 for owner dwellings and 3 bedrooms for tenant dwellings. As in the comparison of tenant dwellings and owner dwellings with reference to the total number of rooms per person, the tenant

families appear to have sleeping quarters comparing favorably in size with those of owner families.

Table VII. Estimated Value Of Farm Dwellings
By Tenure Status

Estimated value of dwellings	Number of dwellings		
	Total	Owner	Tenant
Total all groups	42	24	18
\$500 - \$900	1	--	1
1000 - 1499	6	3	3
1500 - 1999	16	7	9
2000 - 2499	11	8	3
2500 - 2999	2	1	1
3000 - 3499	2	1	1
3500 and over	4	4	-

Value of Dwelling. The value of dwellings ranged from \$800 to \$3000 for tenants. Table VII shows the estimated value of farm dwellings was higher for owners than for tenants. No specific data were gathered to show such a distinction, but on the basis of observation the writer suggests that the principal reason for this higher valuation for owner dwellings is a better state of repair and possibly better locations. The average estimated value of all farm dwellings was \$2400. The majority of houses were of wood frame construction (29), but many were built of red brick (9); following next in

order of number appearing were stucco (3) and log house (1).

MODERN IMPROVEMENTS AND FACILITIES

It must not be assumed that the farm families investigated enjoyed modern improvements and home resources comparable to the apparent adequacy in the size of dwelling. Probably a better judgment of the type of living prevailing in the farm families studied can be made through a description of the facilities present in the home than can be afforded even when the actual amount and distribution of money spent in any one year are known.

Table VIII. Facilities Present In Farm Dwellings
By Type Of Facility And Tenure Status

Type of facility	Number of families		
	Total	Owner	Tenant
Total families	42	24	18
Electricity	28	18	10
Hot and cold running water	8	7	1
Cold running water	19	12	7
Central heating	4	4	-
Bathroom	9	8	1
Kitchen sink	37	22	15
Telephone	35	20	15
Some but not all facilities	38	20	15
Completely modern	4	4	-
Average facilities per family	3.3	3.7	2.7

Table VIII shows that only 4 farm dwellings out of the entire 42 investigated could be considered completely modern, that is, having all facilities recorded in the study. The 4 modernly equipped dwellings were occupied by farm owner families. The most common facilities in order of the number appearing were kitchen sink, telephone, electricity, and cold running water piped into the kitchen. Thirty-eight families reported some but not all facilities. The average number of facilities per dwelling for the 42 families is 3.3. It can be seen that the tenant families fall behind on the average of 1 facility per dwelling in comparison with owner families. Only one tenant family reported bathrooms complete with hot and cold running water, whereas 15 owner families reported these facilities. The use of electricity was fairly well represented in both tenant and owner families. The presence of a telephone in 35 of the dwellings might seem unusual, but the type of agriculture engaged in by these farm operators necessitates quick and frequent market quotations, which might indicate that more modern agricultural practices than improved ways of farm family living are the rule. In connection with home facilities it seems also appropriate to report that all 42 families investigated had one or more automobiles, and many had motor trucks in addition. The use of transportation facilities will be taken up in more detail later in this thesis.

Table IX. Average Cost Of All Principal Goods And Services Of 42 Farm Families, By Tenure Status

Item	All families		Owner family		Tenant family	
Total families	42		24		18	
Size of family	3.8		3.9		3.6	
	Amount	Per-cent	Amount	Per-cent	Amount	Per-cent
Total value living per family	\$1159.21	100.0	\$1203.04	100.0	\$1100.77	100.0
Value purchased living per family	762.19	65.7	790.12	65.6	724.94	65.8
Value furnished living per family	397.02	34.3	412.91	34.4	375.83	34.2
Total value living per person	308.14	100.0	310.46	100.0	304.82	100.0
Value purchased living per person	202.60	*	203.90	*	200.76	*
Value furnished living per person	105.53	*	106.55	*	104.07	*

* Percentages for value of living per person are the same as those given above for value of living per family.

DISTRIBUTION OF EXPENDITURES FOR FAMILY LIVING.

Bearing in mind that "aggregate family living" consists of the wide range of items entering into the family living and among which the family expenditures must be distributed, attention will now be centered on the total value of all goods used, including the proportion of the total value of goods furnished by the farm and consumed by the farm family. Value of living and the distribution of expenditures for all purposes annually comprise an important part of the well-being of the family. It is a partial measure of the enjoyment and satisfaction derived from farm family living; the whole measure must include the quantities and kinds of goods and services purchased and the manner of consuming them. The limitations of this study do not permit a detailed analysis of all the factors which need to be taken into consideration relative to the satisfactions gained from different types of expenditures. Therefore, this presentation concerns itself essentially with analyzing the expenditures in such a manner that a fair picture can be had of the content of living of the group of 42 farm families investigated.

The average value of farm family living for the twelve-month period September 1, 1936, to August 31, 1937, of the 24 owner and 18 tenant families investigated, is given in Table IX. The value of living furnished by the farm is shown separately from that purchased.

The average value of all goods consumed for all families is \$1159.21 per family. The figure for owner families is \$1203.04, while that for tenant families is \$1100.77 per family. The average per person value of living for both purchased and furnished goods is practically the same for both owner and tenant families. It is shown that 34.2 percent of the average total value of family living for all families is supplied directly from the farm, thus indicating a practice of the "live-at-home" plan to a considerable extent. The similarity of the figures for owner and tenant families is the most significant feature of Table IX.

When the distribution of the total cost of farm family is considered as shown in Table X, some contrasts appear between the distribution of living costs of owner and tenant families.

Food. Table X shows that for all 42 farm families practically one third of the value of living went for food and that about half of the food was produced at home. When a comparison of food purchases is made between owner and tenant families, the tenant families appear to produce 3 percent more of the food used and therefore purchase less food than owner families. It must be remembered that no significance can be attached to this difference due to the entry of chance into the sample. A complete measure of the reliability of the sample is given in the appendix.

Clothing. Expenditures for clothing vary very little among the owner and tenant families, being around 12.5 percent of the total cost of living for both tenant and owner families.

Housing. As was pointed out earlier in this report, tenant dwellings were estimated as being less valuable than those of owners. This is of course reflected in the cost of housing as shown in Table X. Owner farm family value of housing averaged about 3 percent more than that for tenants. For all families the average per family cost of housing was \$197.38 or 17 percent of the average total cost of farm family living.

In the expenditures for household operation, which absorb an average of slightly more than 10 percent of the total cost of living for all families; owner families spent about 2 percent more in the operation of the household affairs than did tenant families. Table X shows that a minor part of the costs of household operation, in the form of fuel taken from the farm, was furnished and consisted of less than 1 percent of the costs of operation in all cases, on the average. It is interesting to observe that tenant families estimated that their use of available fuel on their rented farms equals that supplied by the owner operated farms for home use.

Furnishings. Farm owner and tenant families report about the same average expenditures for household furnishings, the average being \$89.45 or 7.7 percent for the 42

Table X. Average Cost Of Living And Distribution
Of Expenditures Among The Principal Groups Of
Goods And Services Used By 42 Farm Families,
By Tenure Status

Item	All families		Owner family		Tenant family	
Total families	42		24		18	
Size of family	3.8		3.9		3.6	
	Amount	Per- cent	Amount	Per- cent	Amount	Per- cent
Total	\$1159.21	100.0	\$1203.04	100.0	\$1100.77	100.0
Food	382.45	32.9	391.12	32.5	370.88	33.6
Purchased	192.40	16.5	208.75	17.3	170.61	15.4
Furnished	190.05	16.4	182.37	15.1	200.27	18.1
Clothing	147.92	12.7	157.45	13.0	135.22	12.2
Housing*	197.38	17.0	220.41	18.3	166.66	15.1
Operation	123.23	10.6	136.41	11.3	105.66	9.5
Purchased	113.64	9.8	126.29	10.4	96.77	8.7
Furnished**	9.59	.8	10.12	.8	8.88	.8
Furnishings	89.45	7.7	91.41	7.5	86.84	7.8
Health	63.65	5.4	65.75	5.4	60.83	5.5
Education and advancement	73.98	6.3	56.16	4.6	97.72	8.8
Insurance and savings	49.54	4.2	52.29	4.2	45.88	4.1
Personal	31.59	2.7	32.00	2.6	31.05	2.8

* Ten percent of the estimated value of the farm dwelling was used as the annual cost of housing and was considered furnished by the farm.

** Fuel furnished by the supply of wood on the farm was included with the usual operation expenses.

farm families included in this study. However, Table I in the appendix shows more clearly the comparison of tenant families and owner families with regard to the articles of furnishings which they purchased. Cleaning equipment (brooms, mops, and dust pans principally), rank first in the number of families purchasing, and is followed, in order of the number of families purchasing, by kitchen utensils, lighting equipment, floor covering, and furniture. It is noteworthy to observe, in Table I of the appendix, that 12 families, or 28.5 percent of all families reported the purchase of some form of electrical appliance; however, only 3 of these were tenant families. As a whole, the tenant families compare favorably with the owner families in the purchase of household furnishings and equipment, and in some cases rank higher than owner families in both the number purchasing and the average expenditure.

Health expenditures for owner families and tenant families are similar in amount with 5.4 percent of the average cost of living going for this group of goods and services.

Education and Advancement. One of the striking features of Table X is brought out by the difference shown in the amounts and proportions of family expenditures going for education and advancement in owner families and tenant families. Almost twice as much money is spent by tenant families, investigated in this study,

for education and advancement as that reported by owner-families. However, it is pertinent to suggest that the expenditures by tenant families for education in excess of that spent by owner families for the same purpose are likely due to the presence of a larger number of children of school age in tenant families, as shown in Table II.

Table XI. Average Expenditure For Certain Items Of Advancement In 42 Farm Families, By Tenure Status

Item	All families		Owner		Tenant	
	Amount	Per-cent	Amount	Per-cent	Amount	Per-cent
Total expenditure	\$73.85	100.0	56.04	100.0	297.61	100.0
Formal education	40.54	54.8	18.83	33.6	69.50	71.2
Reading material	13.23	17.9	14.12	25.1	12.05	12.3
Religious contributions	9.90	13.4	10.83	19.3	8.66	8.8
Vacation	4.50	6.0	3.29	11.2	2.11	2.1
Entertainment	4.76	6.4	3.04	8.9	4.38	4.4
Other	.90	1.5	.92	1.3	.88	1.2

Table XI shows that other than expenditures for education, owner families included in this study spent about twice as much for advancement as did the tenant families. For reading matter, religious and charitable contributions, vacation, entertainment, etc., owner families spent on the average of \$48.21 each as compared with only \$28.11 per family spent by tenant families, or to put it another way, owner families spent about 38.6 percent more money for advancement than did tenant fam-

ilies. However, it must be remembered that tenant families spent 37.6 percent more money for education.

Insurance. Life, health, and accident insurance was almost the only sort of savings for which figures could be secured. It is the opinion of the investigator that homemakers were hesitant to divulge such personal matters as savings, even in those cases that did make investments or put away savings during the year. Therefore, "savings" in this study consist only of forms of insurance premiums paid during the schedule year. As shown in Table X, expenditures for this averaged \$49.54, or 4.2 percent of the total cost of living among the 42 farm families. The average proportion of the total cost of farm family living going for insurance was almost identical for both owner and tenant families, this being about 4.2 percent per family.

Personal. Miscellaneous personal expenditures, consisting of such items as jewelry, toilet articles, barbers' services, tobacco, etc., averaged \$31.59 or 2.7 percent of the average total cost of living per family. Contrary to what might be expected, these expenditures were almost identical among owner and tenant families. This might suggest that in the case of owner families and tenant families, the personal expenditures were made for only those items necessary to personal care and need, excepting the use of tobacco, and this is such a universal habit that little difference in expenditure would be expected.

Table XII. Average Distribution Per Family of Cash Expenditures For Family Living Among The Principal Goods And Services Purchased, For 42 Farm Families By Tenure Status

Item	All families		Owner family		Tenant family	
Total families	42		24		18	
Size of family	3.8		3.9		3.6	
	Amount	Per-cent	Amount	Per-cent	Amount	Per-cent
Total value living per family	\$1159.21	100.0	\$1208.64	100.0	\$1106.77	100.0
Purchased living *	762.19	100.0	790.12	100.0	724.94	100.0
Food	192.40	25.2	202.73	25.4	170.61	23.5
Clothing	147.92	19.4	157.46	19.9	135.22	18.6
Operation	113.64	14.8	122.29	15.9	95.77	13.3
Furnishings	89.45	11.7	91.41	11.5	85.23	11.9
Health	63.64	8.3	65.75	8.4	60.62	8.3
Education and development	73.97	9.7	56.15	7.1	97.72	13.4
Insurance and savings	49.54	6.5	52.29	6.6	45.88	6.3
Personal	31.59	4.1	32.00	4.0	31.05	4.2

* Purchased living consists of all goods and services for which actual cash is spent.

Table XII shows the average distribution of cash expenditures among the items purchased by owner

and tenant families. Although the owner families spend slightly more cash, the percentage distribution of cash expenditures for owner and tenant families does not differ greatly. In matters of food purchases, clothing expenditures, and operation expenses, the owner families spend a greater proportion of the family budget than do the tenant families. Attention is again called to the fact that tenant families spend almost double the amount for education and advancement that owner families do.

Table XIII. Average Distribution Per Family Of The Money Value Of Farm Furnished Living, Over The Principal Items Furnished, For 42 Farm Families, By Tenure Status

Item	All families		Owner family		Tenant family	
Total families	42		24		18	
Size of family	3.6		3.2		3.6	
	Amount	Per-cent	Amount	Per-cent	Amount	Per-cent
Total value living per family	\$1159.21	100.0	\$1203.04	100.0	\$1100.77	100.0
Furnished living*	397.02	100.0	412.91	100.0	375.93	100.0
Food	190.05	47.8	182.37	44.1	200.27	53.2
Housing	197.38	49.7	220.41	53.3	166.66	44.3
Fuel	9.59	2.4	10.12	2.4	8.88	2.3

* Furnished living consists of those goods furnished by the farm and used at home. An estimated value of these furnished goods was derived by using the price for which they could have been marketed.

In the matter of farm supplied goods consumed in the 42 farm families, Table XIII shows that the value of these goods was almost equally divided between food and housing; furnished fuel comprised only 2.4 percent of all furnished goods. Whereas 53.2 percent of the total value of all furnished goods in the 18 cooperating families was food, only 44.1 percent of all furnished goods in the 24 cooperating owner families consisted of food. Almost the same proportion in reverse was true in the case of housing; owner families reported a furnished value of 53.5 percent of all furnished goods as housing as compared with a reported value of 44.3 going for housing or all furnished goods by tenant families. The average percentage of all furnished goods comprised of furnished fuel was practically the same for owner and tenant families.

Table XIV indicates the variation in average distribution of cost of living in relation to the total value of living of the 42 farm families. It can be readily observed from this table that as the total value of living increased, the percentages spent for food decreased, the percentages spent for clothing and operation remained practically the same, furnishing expenditures increased greatly, health expenditures varied very little in the higher and lower groups but increased in the middle group, education and advancement increased greatly, insurance and savings increased, but personal

Table XIV. Average Distribution Of Cost Of Living
Among The Principal Goods And Services, Classified
By Value Of Family Living, For 42 Farm Families

Item	Value of living					
	Under \$1000		\$1000 - \$1499		\$1500 and over	
	Amount	Per- cent	Amount	Per- cent	Amount	Per- cent
Total	\$839.15	100.0	\$1243.46	100.0	\$1792.37	100.0
Food	326.00	38.8	404.60	32.5	474.75	26.4
Clothing	114.63	13.6	155.46	12.5	212.87	11.8
Housing	154.21	18.3	207.33	16.6	281.25	15.6
Operation	94.63	11.2	131.66	10.5	175.37	9.7
Furnishings	39.36	4.6	82.66	6.6	221.12	12.3
Health	36.47	4.3	91.53	7.3	75.87	4.2
Education and development	21.68	2.5	79.66	6.4	185.00	10.3
Insurance and savings	30.57	3.6	53.80	4.3	120.37	6.7
Personal	21.57	2.5	36.73	2.9	45.75	2.5

expenditures remained about the same. In general Table XIV indicates that as the total value of living of the 42 farm families included in this study increased, the proportion going for the primary physical needs (food, clothing, housing, and household operation), tend to decrease, while the proportion going for other items entering into farm family living tend to increase. Such an indication follows closely the theory advanced by

Ernst Engel in which he said, "The poorer an individual, a family, or a people, the greater must be the percentage of the income necessary for the maintenance of physical sustenance, and again of this a greater portion must be allowed for food."¹

Use of Automobiles. As pointed out at the beginning of this thesis, because of the overlapping of automobile usage with the business of farm operation and family transportation, expenditures for automobile operation are treated separately from those concerned directly with farm family living. It is felt that this policy eliminates the difficulty involved in arriving at a reasonably accurate estimate of the portion of automobile operation expenditures attributable to family living, and at the same time does not materially affect the description given of the items entering more specifically into farm family living.

Upon inquiry into the use made of the automobile for family travel, it was found that little use was made of the automobile solely for the enjoyment of the family. Rough estimates made by the farm families indicate that not more than 25 percent of the usage of the automobile is for family enjoyment only. Usually affairs concerning both the farm and the farm family are attended to jointly where use of the automobile is involved. Therefore, the

1 Zimmerman, Carle C., Consumption and Standards of Living, D. Van Nostrand Company, New York, 1936, p. 40.

expenditures for automobile operation given here are the total expenditures and are not classified partly as to farm business and partly as to farm family usage.

All 42 farm families included in this study reported the ownership of one or more automobiles, although in 3 cases the automobiles were of the "pickup" type and were used jointly for family enjoyment and farm business. Besides the automobiles, the majority of families also reported motor trucks used primarily in the farm operation. The automobiles were in most cases the lower-priced makes and averaged about 3 years in age. Eight families stated that the automobiles had been purchased second-hand. The reports of the number of automobiles purchased during the schedule year show that 7 farm families of the 42 investigated purchased, or rather traded, automobiles. Only 1 of the 7 families reporting automobile trades during the schedule year traded for a used automobile; the 6 other families traded for new ones. Only 5 families reported any automobile insurance. The estimated cost of automobile operation for the schedule year was an average of 96 per family; this included expenditures for gas, oil, and grease, licenses, repairs, and tires. No account of the depreciation of value was considered because of the amount of accounting which would have been involved in adjusting depreciation of the automobile to the age, type, and extent of repairs. Another complicating factor involved in an attempt to determine

the cost of automobile operation involved the purchase of gasoline. Many farm families reported that gasoline was purchased in wholesale lots for the operation of power farm machinery and that the gasoline and oil used in the automobile were supplied from this source, thereby making it impossible to get an accurate estimate of the amount used. The figures and statements presented here call attention to the joint use of the automobile for farm and family use. "The automobile is used for anything from taking pleasure drives and going to church on the one hand to the hauling of produce, milk, eggs and pigs to market on the other hand."² The use of the automobile in both farm operation and farm family living is continually increasing, and as indicated in this study, it remains for an accurate and satisfactory method to be derived for accounting the portion of automobile usage and expenditures chargeable to farm family living.

² Kirkpatrick, Ellis L., The Farmer's Standard of Living, The Century Co., New York, 1929, p. 160.

Participation in Community Organizations. The part which farm families take in the social activities and organizations of their communities is recognized as an important element in their family living. Traditionally,

Table XV. Extent of Participation In Specified Types
Of Social Organization Of 42 Farm Families,
By Tenure Status, and
Number Of Families And Persons Participating.

Type of organ- ization	Number of families and persons reporting participation					
	Total		Owner		Tenant	
	Families*	Persons*	Families*	Persons*	Families*	Persons*
Religious	38	142	22	80	16	62
School	6	12	4	7	2	5
Farm	9	12	7	10	2	2
Youth	6	9	4	6	2	3
Fraternal	8	9	4	4	4	5
Civic	4	4	3	3	1	1
Womens'	16	19	12	15	4	4

*Families refers to the families reporting members affiliated with organizations. Persons refers to the number of persons actually affiliated with organizations and does not refer to the total number of persons in the families.

one of the chief rural institutions is the church.

Table XV shows the extent of participation in the existing community organizations. No measurement is attempted to show the degree of regularity with which the reporting families attended the community affairs. By far the

most attended organizations were those of a religious nature. Table XV shows that 38 of the 42 families included in this study are associated with religious organizations, and that the 38 families are composed of 142 persons actively associated with the religious organizations. Organizations connected with the church include women's missionary unions and church boards, but practically no activity of this nature was reported. Considerable interest was reported in connection with the community schools, as indicated by the fact that 6 families reported some affiliation of this nature. The organizations sponsored by the county agricultural and home extension agents consist of those shown in Table XV as Farm Organizations and Youth Organizations. They include all boys' and girls' clubs, livestock organizations, sugar beet growers' associations, home economics clubs, and sewing clubs. Nine families reported affiliation with farm, and six with youth organizations. Eight farm families reported members affiliated with some form of fraternal organization; there is also an indication of civic-mindedness, as indicated by 4 families who reported affiliations of this nature. Women's clubs were well represented among the owner families, but not so much so among the tenant families; 12 owner families represented by 15 persons reported membership in one or more women's clubs, but only 4 tenant families reported such affiliations. In general, it can

be said that the 24 farm owner families and the 18 farm tenant families included in this investigation are fairly well represented in the community organizations, especially those pertaining to the church. Contrary to popular opinion, no difference appears between the church attendance of owner and tenant families. However, most of the tenant families report fewer organization affiliations than do owner families. Although not to the same extent, the indicated lack of social participation by the 18 tenant families included in this study is in keeping with findings in numerous studies.³

Additional Improvements Desired. The 42 farm families studied were asked to state what improvements they were looking forward to making as soon as means and circumstances permitted. The replies to the question were obtained so as to get first, second, and third choices. Table XVI shows the replies, classified by type of improvement desired and whether first, second, or third choice. By far the largest number of improvements wanted was in the nature of home conveniences. The outstanding items are piped water system, electricity, kitchen range, and electric refrigerator. Particular note should be made of the number of homemakers express-

³ Kolb, J. H. and Brunner, Edmund deS., A Study of Rural Society, Houghton Mifflin Co., New York, 1935, p. 321

ing a desire for more modern homes, and also of the expressed desire of tenant homemakers for home ownership. As previously shown in Table VII, 88 of the 42

Table XVI. Additional Living Improvements
Desired By 42 Farm Families

	Total	First choice	Second choice	Third choice
Total	126	42	42	42
Conveniences:				
Electric power	14	0	4	1
Central heating	4	-	1	3
Water system	25	3	13	7
Bathroom	5	1	2	2
Electric washer	5	1	1	3
Kitchen range	9	3	2	4
Iceless refrigerator	9	2	5	2
Electric vacuum	3	-	2	1
Kitchen sink	3	1	-	2
Furnishings:				
Furniture	13	2	4	7
Piano	2	1	1	1
Radio	2	-	-	2
Living improvements:				
Remodel dwelling	11	9	-	2
New dwelling	2	2	-	-
Screened porch	4	-	0	2
New porch	1	1	-	-
More windows	1	-	1	-
Dwelling painted	1	-	-	1
Flower garden	1	-	-	1
Miscellaneous:				
Purchase farm	7*	7*	-	-
New automobile	2	-	1	1
Move to town	1	1	-	-

*Consist of tenant families only.

farm families investigated report electric power available in the dwelling; this is particularly significant in view of the desire expressed by 14 farm families for electric power, thus showing that all farm families

investigated either already have electric power in the home or regard electricity as the most desirable facility which they hope to acquire. Possibly the present unsatisfactory source of water supply on the farms for family use, resulting in almost every case studied in the purchase of water, is reflected in the desires of a large number of the farm families for a system of running water in the farm dwelling.

CHAPTER IV

COMPARISON WITH FAMILIES OF OTHER STATES

For the purpose of gaining an idea of how the 42 farm families under consideration compare with those in other states with regard to the distribution of expenditures, Table XVII may be used. The data for the 2886 farm families in 11 states was secured through a study conducted by the United States Department of Agriculture during the years of 1922, 1923, and 1924. The data shown for the 2886 farm families were adapted from Bulletin No. 1466¹ of the United States Department of Agriculture.

Since the classification in general is parallel for the two studies, they can be compared very well. The average size of families of the 2886 families is slightly larger than that for the 42 Colorado farm families included in this study. The 2886 families show a higher value or cost of living and a larger proportion of goods produced on the farm than do the 42 Colorado families. In general, the 2886 farm families of 11 states spent more on the average for food, clothing, and operation, but lower average amounts for housing, furnishings, health, education and advancement, personal goods, and

¹ Kirkpatrick, Ellis L., The Farmer's Standard of Living, The Century Co., New York, 1929, pp. 66 and 67.

insurance, than did the 42 Colorado farm families. However, for many reasons it is not possible to draw any conclusions from the comparisons of these farm

Table XVII. Comparison Of Percentage Distributions
Of Expenditures Of 42 Colorado Farm Families
And 2886 Farm Families Of 11 States

Item	42 Colorado Families	Families of 11 states ²
Number of families in study	42	2886
Average size of families	3.8	4.4
Total value of goods per family	\$1159.21	\$1598.00
Total value of goods per person	\$ 306.66	\$ 363.40
Total Percent	100.0	100.0
Food	32.9	41.2
Clothing	12.7	14.7
Housing	17.0	12.5
Operation	10.6	13.3
Furnishings and equipment	7.7	2.5
Health	5.4	3.8
Education and advancement	6.3	6.6
Personal	2.7	2.8
Insurance	4.2	2.6
Proportion of living purchased	65.7	57.2
Proportion of living furnished	34.2	42.8

² Kirkpatrick, Ellis L., *op. cit.*, pp. 66 and 67.

This study was made by the United States Department of Agriculture during 1922-1924, and was conducted under the supervision of Ellis L. Kirkpatrick.

families. The study of the 2886 families was conducted over a decade ago, and undoubtedly prices of goods as well as buying practices have changed since these data were gathered. Particularly in connection with food prices it is well to mention the changes in prices as shown by index numbers. The index numbers showing the general trend of retail food prices paid by farmers for commodities used in family living prove that prices paid by farmers for commodities were greater during 1922, 1923, and 1924 (the period during which the study of 2886 farm families in 11 states was made), than those prices paid by farmers for the same commodities during the period covered in this study, 1936 and 1937. For instance, during 1923 the index number was 160 for the prices paid by farmers for commodities used in family living, but in 1937 the index number for prices paid by farmers for the same commodities had decreased to 128. On the basis of these index numbers it is safe to say that in 1937 farmers paid about 22.5 percent less for commodities used in family living than they paid for the same commodities in 1923. If the retail prices of commodities were greater in 1923 than in 1937, it also follows that the farmer received a higher price for the commodities which he marketed; this in turn would place a higher value on the goods which were produced and consumed at home. Therefore, it is evident that the greater amount of expenditures for food shown by the 2886 farm

families in 11 states when compared with the reported amounts spent for food by the Colorado families, can be partially explained in the higher cost of food prevailing at the time when the study of the 2886 farm families² was made. Another factor entering into the higher proportion of food expenditures by the 2886 farm families is that of the size of family. The 2886 farm families in 11 states reported larger families on the average than did the 42 Colorado families. However, even with the differences in prevailing prices and the difference in family size, it must be observed in Table XVII that the value of living reported for the 2886 farm families is considerably greater than that reported by the 42 farm families in this study.

² Bureau of Agricultural Economics, United States Department of Agriculture, The Agricultural Situation, Volume 4, Number 4, Washington, April 1, 1938, p. 24.

CHAPTER V

COMMENTS CONCERNING SCHEDULE USED AND METHOD OF STUDY

The schedule as developed and used in this study needs some alteration in order to conform better to the needs for studying farm family living in Colorado.

Farm Family Net Income. An attempt was made in this investigation to secure a summary of all farm cash receipts and expenditures for the schedule year in order that some relationship might be shown between the net income and the amount of cash expenditures for farm family living. However, the attempt at securing data pertaining to cash receipts and expenditures was generally unsuccessful primarily because of the complicated nature of farm business transactions which necessitate an accurate and detailed system of accounting.

Composition of Diet. The composition of the usual diet appeared so uniform among the 42 farm families studied that the investigator is of the opinion that such information contributes little to the study. Therefore, it is felt that the collection of such data, which are merely enumerated and do not measure any condition, could be discontinued without materially affecting the value of a farm family living study.

Aspects of Cost Per Capita. Since the sex composition of the family and the age of the family members affect the distribution of the expenditures for family

living, it is felt that more attention should be devoted to this aspect of family living. In the matter of clothing expenditures, for example, it appears that a better idea of expenditures could be had if the purchases of clothing were obtained by family members rather than for the entire family as a group.

Method of Handling Health Expenditures. In this study the policy was followed of including expenditures for births, deaths, and funerals with expenditures for health maintenance. The investigator suggests that this policy be discontinued in subsequent investigations of farm family living in Colorado, because the inclusion of such relatively infrequently occurring expenditures distorts what would otherwise be a fairly accurate account of expenditures for health maintenance. The expenses connected with births, deaths, and funerals could be classified separately from those pertaining essentially to health.

Suggested Improvements in Method of Investigation.

As pointed out at the beginning of this report, the survey method was used in collecting data from the 42 farm families cooperating in this investigation. Certain improvements in the schedule used have been suggested, and in addition it is felt that some improvements in the method of investigation are pertinent.

It would seem that a better balanced investigation of farm family living could be made if both family

living and farm management studies were conducted concurrently for the same families. This policy would solve the problem of securing data concerning net farm family income with its relation to the family living costs. It is evident that an arrangement such as this suggested would necessitate a deviation from the purely survey methods, namely, the survey and the account methods, would be used. It has been found in one study that a combination of the survey and account methods of collecting data for farm families constitutes a satisfactory form of investigation.¹

¹ Woodhouse, Chase G. and Williams, Faith M., Comparison of Schedule and Account Methods of Collecting Data on Family Living, United States Department of Agriculture, Technical Bulletin No. 335, 1933, pp. 39-41.

CHAPTER VI

SUMMARY

This is an exploratory study into the family living of Colorado farm families, and the material presented is concerned principally with the family living as reported by 42 farm families in a selected area located in the northern irrigated district of Colorado.

Since this is the first sociological study of farm family living attempted in Colorado, it is essentially preliminary in nature. Therefore, it is felt that no definite conclusions pertaining to a measure of the standard of living of families in general in the northern Colorado irrigated district are justified, but that attention should be concentrated on deriving a comprehensive and satisfactory method of study adaptable to Colorado farm families.

The first purpose of this study was to develop and test a method for studying farm family living in Colorado.

A second purpose of this study was to analyze in detail the aggregate family living of a group of farm families located in one of Colorado's major type-of-farming areas.

The information was secured by interviews with the homemaker in each family and consists of data pertaining to all those goods and services entering into the

farm family living. In addition, data were secured pertaining to the composition and characteristics of the farm families and their extent of participation in the social organizations of the community.

Statistical calculations measuring the reliability of the sample studied shows that the sample is reliable but that no conclusive proof of variations among owner and tenant families is justified, because the variations in the aspects of family characteristics and composition as well as in family living are so small that they are very likely due to chance. Therefore, the comparisons made in this study are not intended to show a distinct measurement of the variations in owner and tenant families included in this study, but will show only differences in reports.

Of the 42 farm families investigated, 57.2 percent were farm owners and 42.8 percent were farm tenants.

Owner families averaged 3.9 persons and tenant families averaged 3.6 persons. However, tenant families reported a greater number of family members under 16 years of age.

Homemakers reported a higher average educational attainment than farm operators; however, little difference was reported between the education of owners and tenants. The reports of all 42 farm families show that 83 percent of farm operators and homemakers did not complete a high school education.

The average age of farm dwellings as reported was about 42 years for both owner and tenant families, but tenant family dwellings show a slightly larger representation in the older age groups. There appears to be little difference in the average size of owner and tenant dwellings, as the average for each was about 7 rooms per dwelling. The same indication is true in the comparison of the number of bedrooms in owner and tenant dwellings, as the average number was about 3 per dwelling. The average value of dwellings was \$2400 and showed a slightly higher value for owner dwellings than for tenant dwellings.

Only 4 of the 42 farm dwellings in the study had all modern facilities. Farm tenant dwellings averaged one facility fewer than the number reported in owner dwellings. The 42 farm dwellings reported a total of 140 or an average of 3.3 facilities each; the owner dwellings averaged 3.7 facilities as compared with 2.7 facilities averaged by tenant dwellings.

The families spent an average of \$1159.21 each for all purposes of family living during the schedule year, and of this, \$762.19 was spent in cash. The farm furnished food, housing, and fuel to the average value of \$397.02 per family. Owners spent an average of \$790.12 in cash, and tenants \$724.94. Owners supplied food, fuel, and housing from the farm to the value of \$412.91, and tenants \$375.83. For the entire group of families

about 65.7 percent of the total value of living was purchased, and about 34.3 percent was furnished. Tenants produced about 3 percent more of the food used and therefore purchased less food than owners. For only one item, that of education and advancement, did the expenditures of tenant families on the average exceed that of owner families. However, in general there appeared little variation in proportions of expenditures for different items as reported by owner and tenant families.

Approximately 23 percent of the expenditures for automobile operation was estimated attributable to farm family use. All 42 farm families reported ownership of one or more automobiles. Seven families reported automobile trades during the schedule year, and all but one trade was for a new automobile. The estimated cost of automobile operation for the schedule year, exclusive of depreciation, was an average of \$96 per family.

Almost all families reported some church attendance. Other organizations attended by the 42 farm families were agricultural, educational, fraternal, civic, and womens' clubs. The extent of attendance by owner families exceed that of tenant families in all activities except those of a religious or fraternal nature.

By far the largest number of improvements desired by the 42 farm families was in the nature of home conveniences. The outstanding items named as desired were

a piped water system, electricity, kitchen range, and iceless refrigerator. All families not already having electricity in the dwelling expressed a desire for that facility as a first choice.

A comparison of the distribution of expenditures as reported by the farm families included in this study with the study made of 2886 farm families in 11 states indicates that the Colorado farm families studied have a value of living distributed over the items entering into the living which in general compares favorably with that of the 2886 farm families in the 11 states. When it is considered that the study of the 2886 farm families was made during the years of 1922, 1923, and 1924, when food prices were higher than they were during the period of time covered by this study, it appears even more likely that there is little difference in the food consumption of the 42 farm families as compared with that of the 2886 farm families.

The investigator is of the opinion that the schedule used and the method of investigation followed in conducting this study are generally satisfactory. However, he feels justified in making a few suggestions which might be of value to others who might undertake investigations in the same general field as this one. The following suggestions seem pertinent and constructive:

1. Primarily because of the complicated nature of farm business transactions, an attempt at securing data

pertaining to cash receipts and expenditures was generally unsuccessful. The writer feels that this problem could be solved if both family living and farm management studies were conducted concurrently for the same families.

2. The tabulations revealed that the usual diet among the farm families in this study was uniform; for that reason it did not seem necessary to include this material in the discussion. It is the writer's opinion that the collection of such data could be discontinued without materially affecting the value of the study.

3. The effect of the sex composition of the family and the age of the family members is noticeable in the distribution of expenditures for family living. Therefore, it is felt that more attention should be devoted to this aspect of family living.

4. The writer suggests that expenditures for health and sickness be tabulated separately from those incurred by deaths and funerals.

On the basis of a comparison of schedule and account methods of collecting data on family living made by the United States Department of Agriculture, a combination of the two methods seems to constitute a satisfactory form for investigating farm family living. The writer is of the opinion that such a combination of methods would likely result in less estimation by cooperating farm families if it were applied to use in Colorado.

The preliminary nature of this study with its limited scope cannot be considered as an adequate measure of farm family living in the northern Colorado irrigated district. An analysis of the material gathered in this study has been presented principally for the purpose of providing an index indicative of what might be expected with regard to Colorado farm families from a study sufficiently extensive in scope to justify constructive conclusions. Therefore, it is hoped that the presentation of this study will stimulate discussion and further study of standards of living in Colorado.

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TABLES

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Statistical Measurement of the Reliability of
the Sample from which the Average Number of
Persons per Family will be Compared
by Tenure Status *

	Owner families (24)	Tenant families (18)
Arithmetic mean	3.8 persons	3.6 persons
Standard deviation from the mean	1.21 persons	1.33 persons

$$\sigma = \sqrt{\frac{\sum (x^2)}{N}}$$

Probable error of the mean
(the error which will not be
exceeded by 50 percent of
the cases).

$$P.E. = .6745 \frac{\sigma}{\sqrt{n}}$$

.167 persons .211 persons

Interpretation

The probable error can be interpreted as meaning that if another sample were drawn from the same population, the chances are that 50 percent of the families would not vary more than .167 persons for owners, and .211 persons for tenants, from the true mean of the number of persons per family in the sample. Since the probable error is reasonably small, it provides evidence that the sample is reliable. Since the probable error varies with the size of sample, it is to be expected that the probable error of the tenant families is larger than that for owner families because the number of tenant families included in the sample is smaller.

* The source of formula used in these calculations is: Arkin, Herbert, and Colton, Raymond R., An Outline of Statistical Methods, Barnes and Noble, 1935, pp.34 and 119-124.

Statistical Measurement of the Significance
of the Differences in the Average Size of
24 Owner and 18 Tenant Families Included
In this Study

Difference of two means of size of family

$$\sigma_D = \sqrt{\frac{\sigma_1^2}{N_1} + \frac{\sigma_2^2}{N_2}}$$

$$\sigma_D = \sqrt{\frac{1.47}{24} + \frac{1.79}{18}} = .4 \text{ Persons}$$

Average size of owner families	3.8 persons
Average size of tenant families	<u>3.6 persons</u>
Actual difference	.2 persons

Standard error of differences .4 persons

Interpretation

A difference as large as 1.2 persons (three standard errors of the difference between the two means) might arise due to chance, according to the statistical formula. Since the actual difference (.2 persons) is much less than this difference which could be expected due to chance (1.2 persons), it is very likely that the difference is due to chance and that the difference of the size of the owner and tenant families in this study is not significant.

Statistical Measurement of the Reliability of
the Sample from which the Average Value of
Furnished Living per Family is
Compared by Tenure Status

	Owner families (24)	Tenant families (18)
Arithmetic mean	\$412.91	\$375.83
Standard deviation from the mean	\$95.43	\$95.15

$$\sigma = \sqrt{\frac{\sum (x^2)}{N}}$$

Probable error of the mean
(the error which will not
be exceeded by 50 percent
of the cases)

\$13.16

\$15.13

$$P.E. = .6745 \frac{\sigma}{\sqrt{N}}$$

Interpretation

The probable error can be interpreted as meaning that if another sample were drawn from the same population, the chances are that 50 percent of the families would not vary more than \$13.16 for owners, and \$15.13 for tenants, from the true mean of the average value of furnished living per family in the sample. Since the probable error varies with the size of the sample, it is to be expected that the probable error of the tenant families is larger than that for owner families because the number of tenant families included in the sample is smaller. However, since the probable error for both owner and tenants is reasonably small, it provided evidence that the sample used in this study is reliable.

Statistical Measurement of the Significance
of the Difference in the Average Value of
Furnished Living per Family of 24 Owner
and 18 Tenant Families Included in
This Study

Difference of two means of size of family

$$\sigma_D = \sqrt{\frac{\sigma_1^2}{N_1} + \frac{\sigma_2^2}{N_2}}$$

$$\sigma_D = \sqrt{\frac{9055.39}{24} + \frac{9108.32}{18}} = \$29.72$$

Average Value furnished living (owner families)	\$412.91
Average value furnished living (tenant families)	<u>\$375.83</u>
Actual difference	\$ 37.08

Standard error of differences \$29.72

Interpretation

A difference as large as \$89.16 (three standard errors of the difference between the two means) might arise due to chance, according to the statistical formula. Since the actual difference (\$37.08) is much less than this difference which could be expected due to chance (\$89.16), it is very likely that the difference is due to chance and that the difference of the average value of furnished living between the owner and tenant families in this study is not significant.

Table A. Distribution of Value of Farm Family Living Over All Items Used, For
24 Owner Operator Farm Families

Schedule number	Total	Food	Clothing	Housing	Operation	Furnishings	Health	Education and advancement	Personal	Insurance
1	\$ 972	\$338	\$ 98	\$200	\$ 87	\$ 79	\$ 37	\$ 44	\$21	\$ 68
2	1290	459	93	150	108	257	50	23	31	119
3	1393	327	155	350	175	183	47	54	46	53
4	1338	584	170	220	118	86	50	20	58	32
5	1111	372	212	220	121	8	26	37	35	80
6	1474	381	233	240	131	124	75	86	62	142
7	1078	337	115	300	138	55	24	39	22	48
8	1123	358	108	150	210	114	90	36	29	28
9	1430	441	182	220	140	191	52	94	29	81
10	1072	367	120	180	120	53	123	40	27	42
11	757	300	93	180	100	14	43	18	9	--
12	1322	481	192	150	170	22	53	192	38	24
13	1100	314	107	200	142	40	197	52	20	28
14	994	384	133	250	117	15	14	46	12	23
15	772	235	130	120	84	43	75	16	23	46
16	892	377	177	120	73	32	55	20	38	--
17	886	373	133	200	101	29	21	9	20	--
18	923	388	125	150	78	67	38	17	32	28
19	864	278	138	120	108	127	19	14	17	43
20	973	351	152	220	123	24	38	21	12	32
21	1739	545	230	450	175	53	45	102	54	85
22	1580	402	320	370	265	43	60	72	48	--
23	2202	586	173	180	183	407	296	207	20	150
24	1588	409	190	350	207	128	50	89	65	100

Table B. Distribution of Value of Farm Family Living Over All Items Used, For
18 Tenant Operator Farm Families

Schedule number	Total	Food	Clothing	Housing	Operation	Furnishings	Health	Education and advancement	Personal	Insurance
1	\$1393	\$487	\$215	\$180	\$109	\$ 22	\$ 45	\$213	\$57	\$ 65
2	1000	425	178	150	115	13	18	33	38	30
3	1037	393	180	100	88	8	18	196	22	32
4	1491	343	72	300	90	64	505	80	37	--
5	2073	372	115	220	171	895	10	61	75	154
6	1615	672	285	200	121	10	45	158	34	90
7	1554	474	205	280	164	84	51	184	36	76
8	1718	338	185	200	117	149	50	607	34	38
9	854	380	83	150	131	23	15	26	16	30
10	622	306	65	100	50	13	30	10	26	22
11	872	373	105	150	81	26	80	7	22	28
12	805	317	117	100	108	44	18	22	47	32
13	942	330	130	150	131	64	38	34	17	48
14	709	294	88	150	66	13	8	30	12	48
15	890	264	74	180	102	47	80	38	23	82
16	712	330	137	60	75	18	27	26	27	12
17	759	309	96	150	93	48	18	21	13	11
18	768	269	104	180	90	22	39	13	23	28

Table C. Number And Percentage Of Families Purchasing Household Furnishings And Equipment And Average Cost Of Purchases, By Tenure Status.

	All families				Owner				Tenant			
			Average expenditure				Average expenditure				Average expenditures	
	Number	Percent	Per family purchasing	All families	Number	Percent	Per family purchasing	All families	Number	Percent	Per family purchasing	All families
Total	42	100.0	\$89.45	\$89.45	24	100.0	\$91.41	\$91.41	18	100.0	\$86.84	\$86.84
Furniture	15	35.7	62.83	22.26	9	37.6	37.88	14.20	6	33.3	99.00	33.00
Floor covering	17	40.4	13.94	5.64	14	58.3	12.21	7.12	3	16.6	22.00	3.66
Lighting	18	42.8	5.61	2.40	9	37.6	6.33	2.37	9	50.0	4.88	2.44
Kitchen utensils	31	73.8	6.93	5.11	14	58.3	6.35	3.70	17	94.4	7.41	7.00
Table ware	7	16.6	9.14	1.52	2	8.3	15.50	1.29	5	27.7	6.60	1.83
Laundry	4	9.5	52.25	4.97	3	12.6	33.00	4.12	1	5.7	110.00	6.11
Sewing	2	4.7	72.50	3.52	1	4.1	60.00	2.50	1	5.7	85.00	4.72
Refrigerator	5	11.9	196.20	13.35	4	16.6	212.75	35.45	1	5.7	130.00	7.22
Electrical	12	28.5	6.58	1.88	9	37.6	7.00	2.63	3	16.6	5.33	.89
Musical	1	2.3	10.00	.24	-	-	-	-	1	5.7	10.00	.55
Radio	8	19.0	55.62	10.59	6	25.0	45.00	11.25	2	11.1	87.50	9.72
Ornaments	3	7.1	4.66	.33	3	12.6	4.66	.58	-	-	-	-
Cleaning	42	100.0	5.02	5.02	24	100.0	6.75	6.75	18	100.0	2.72	2.72
Cooking stove	1	2.3	60.00	1.42	-	-	-	-	1	5.7	60.00	3.33
Other	5	11.9	13.80	1.64	1	4.1	6.00	.25	4	22.2	15.75	3.50

Account of an Interview with Mrs. W. _____

Mrs. W. keeps the records and conducts the greater portion of the farm business. There are only two in the family, Mrs. W. and her husband, but during the busy portion of the farming season one or two hired men board and room in the W. home.

"I find that the sale of milk, butter, chickens and eggs, more than takes care of the grocery bill. I have a cherry orchard and a large garden as well as a few apple trees, so I can a large quantity of fruit and vegetables each year. I use oleomargarine for cooking and sell all the butter except that portion which we eat. However, I usually sell the cream without going to the trouble and expense of making butter."

"I believe in having as many of the home facilities as possible, and that explains why I have purchased an electric sewing machine, a heatrola, an electric range for cooking, a new radio, and a steam cooker."

"We don't have much leisure time so we don't attend church and I am not a "club-woman." It takes about all of my time to keep the farm records straight, and to look after the chickens and dairy. I do enjoy listening to the radio, and I read the newspapers, some farm journals and popular magazines. My husband and I didn't get so much education in school, but we have learned a lot through the practical teachings of experience."

"We were hard hit by the depression and it has been hard going, but we have managed to get along. My poultry and dairy have sure been a means of paying for the groceries during the lean years."

"I keep a fairly good record of the farm and household expenditures, but there are so many little things which come up that keeping an accurate and complete record is difficult. I believe that it has been more profitable to rent a farm rather than to own one during the past five or six years."

"Lots of women have asked me why I stay on a farm. I like to feel free and independent, and I can do just as I please here on the farm. As I have found out during the past five or six years, one can produce more food at home for home use, and that sure helps to lessen the strain during periods of depression."

Account of an Interview with Mrs. A. _____

"Yes, we have a comfortable place, but it isn't paid for. We bought it just before the depression and have been lucky to keep the interest and taxes paid up. Then too, we have improved the place some by building a barn and other out buildings."

"I have lots of chickens, and the money which comes in from the sale of milk, cream, eggs, and chickens more than takes care of the grocery bill. I have lots of canned fruits and vegetables also which help out. I also make all of our jelly and jam which almost entirely takes the place of syrup or honey which would have to be purchased. We are hard working folks, and I believe in having plenty of good food. Our home demonstration agent is very helpful in suggesting new ways of preparing food and I also know several members of the Home Economics Department there at the college; my daughter is taking work there now."

"We are hoping to be able to improve the house some soon. We need running water badly. At present we haul our water for household purposes from the Fort Collins city water supply. We don't have electric lights yet either, and it sure would be nice to have them. I'd rather have electricity than running water, if I have to make a choice."

"Yes, I belong to two clubs for women, and I am a 4-H Club leader. My daughter has been a 4-H member for several years. My husband is so busy with the farm work that he doesn't attend any organizations. We attend church some in Fort Collins, but not regularly."

Account of an Interview with Mrs. D. _____

"I'll be glad to give you what information I can, but I do not keep a record of how I spend money. In fact, we don't have much to spend. We produce most of our food here on the farm, and I sell cream and eggs in Fort Collins to take care of the groceries which we buy."

"Of course it is nice to own a farm, but we have found it more profitable to rent during the past few years. Our house doesn't have all the modern conveniences such as running water and central heating, but even if we owned the farm, I am sure that we couldn't afford these anyway."

"Our children attend the schools and we carry them to and from school. We attend the German Lutheran Church in Fort Collins. Outside of these trips, we do very little riding around. We don't belong to any organizations except for my husband who belongs to the Beet Growers' Association, but this doesn't have a program of any sort."

"We stay at home pretty close because during the summer the beets and hay keep us busy, and in the winter my husband feeds about two hundred sheep."

Account of an Interview with Mrs. P. _____

The P. family lives about five miles southeast of Fort Collins. There are five members of the family, two sons, one daughter and the parents. Mr. P. has lived for forty years in this community. For the past twenty years Mr. P. has rented a one hundred and thirty acre farm, all under irrigation. He would like to purchase the farm, but at the times when he has been able to make the financial arrangements to purchase, the owner has been unwilling to sell. Mrs. P. does all of the house work with the assistance of the fourteen year old daughter; they also look after the poultry and dairy. Mrs. P. reports that she sells about \$40 worth of poultry and dairy products each month in Fort Collins. The garden supplies sufficient fresh vegetables for family use during the summer, and also about fifty quarts of canned vegetables were canned last year. Mrs. P. says that she makes her own house dresses as well as most of the clothes of her daughter.

The eldest son attends Colorado State College and is in his second year. The other two children are in High School. Mrs. P. says that it is not such a great added expense to have a son in college because he drives to and from college each day, and transports three other students who share the expenses. The college son also has a milk route which he looks after each day while he is in Fort Collins attending classes.

"Our house is over forty years old and need repair. The bath room is in a very bad state of repair. We haven't bought any furniture for several years."

"The housework occupies most of my time and I don't have much leisure time. We do go to church fairly regularly, and I am a member of two womens' clubs which meet once or twice a month. Then we visit with the neighbors some too."

"We hope some day to own our farm which will give us more incentive to make needed improvements, but at the present time it takes practically all the income to finance the farm, and there is little left for buying some of the things needed for the house. Then too, there are two children who will want to attend college, and they must be looked out for; this means that something must be put aside for their education."



Dwelling of Above Average
Tenant Family as Reported
by Schedule No.5



Dwelling of Below Average
Tenant Family as Reported
by Schedule No. 2

THESE ARE THE
 NAMES OF THE
 PEOPLE WHO
 WERE KILLED
 IN THE
 BOMBING OF
 THE
 CITY OF
 BOMBAY

THESE ARE THE
 NAMES OF THE
 PEOPLE WHO
 WERE KILLED
 IN THE
 BOMBING OF
 THE
 CITY OF
 BOMBAY



Dwelling of Above Average
Tenant Family as Reported
by Schedule No. 4



Dwelling of Below Average
Tenant Family as Reported
by Schedule No.10



Dwelling of Above Average
Tenant Family as Reported
by Schedule No. 7



Dwelling of Above Average
Owner Family as Reported
by Schedule No.21



Dwelling of Below Average
Owner Family as Reported
by Schedule No.11

Fort Collins, Colorado

Dear Mrs. _____

A study of the source, amount, and use of the annual income available for farm family living in Colorado will be undertaken within the near future as a cooperative effort of the Research Division in the Department of Economics and Sociology of the Colorado State College of Agriculture. This study will be the first of its kind ever made in Colorado, and its success will depend largely upon the cooperation of members of the farm families in giving the necessary information to Mr. Ralph W. Roberts of our research staff who will conduct the field work necessary in this study.

It is to be understood that all information gathered is strictly confidential and the results of the study will be presented without any reference to the cooperators in so far as identifying them is concerned. The purpose of this proposed study is not to present individual cases, but rather to get an accurate picture of the entire group of families included in the sample. A presentation of this sort will provide some basis whereby individual families may compare their particular problems with those of other families living under similar circumstances. A comparison of this type will emphasize the strong points as well as the defects in management of the individual family finances. This comparison will also enable a family to find the extent to which the value of family living depends upon the cash income available for purchasing goods for family use, and to what extent upon home produced items used by the family.

We earnestly seek your cooperation in this study, and for your further interest we are inclosing a summary of some factors contributing to an improved standard of living.

Very truly yours,

Olaf F. Larson
Associate Rural Sociologist
College Experiment Station

SOME FACTORS INVOLVED IN THE IMPROVEMENT OF STANDARDS OF LIVING

How may farm living be improved? It has been suggested by some that the way to improve living on a farm is to quit farming. However, other more optimistic and practical methods of improving farm family living have been outlined. These may be summarized as follows:

1. By Increasing Farm Incomes. -- More available income for family living creates a greater expenditure for family needs and desires. Give a farmer more income and he will get the better living.

2. By Redistributing The Uses Of The Present Income. -- Some farmers are in such circumstances that they can safely afford to reduce investment in additional land and farming equipment, and can use the extra money for better housing and better living. On the other hand, the extent to which farmers should follow the lead of some city classes in spending a greater portion of their incomes in present consumption is a debatable question. However, there are many rural families who are not in a financial position to reduce investment expenditures, but should rather increase payment on mortgages or extend their land holdings and farm equipment. An increased amount of home-produced living would contribute towards an increase in the cash spendable income which could be used for investment.

3. By More Efficient Spending. -- A better use might be made of the proportion of the income already being spent for family living. This is a place where students of home economics can undoubtedly be of much service. This suggestion applies to all classes of farmers, and especially to those who can not afford to reduce other expenses in order to have more funds for family living improvement.

4. By More Profitable Use of Spare Time. -- Many phases of farm living are not objects of money expenditure. The production of food at home, the improvement of the farmstead and the farm house, and the utilization of leisure time--these are important matters and should be given more attention. Studies in several states have shown that there are striking differences between communities of the same income level in the extent of community participation and socially profitable leisure time activities. This side of farm living offers a great opportunity for improvement without requiring much cash outlay.

The rapid changes which have occurred in consumption habits in the United States since the World War have given rise to a growing interest in the study of standards of living. There is an increasing recognition of the uses of such statistics in a wide variety of present day social and economic problems in planning the production and distribution of those goods which are used in the home, in education, in household purchasing and consumption, and in making use of home resources.

Prevailing standards of living have been described and portrayed for many states, but Colorado is among those few that remain in which little attention has been devoted to this important part of social improvement. In view of the fact that there is increased interest in a more adequate and efficient way of living, it is high time that some information should be gathered to show what families or groups of families in Colorado do in regard to the uses of foods, clothing, shelter, and other less material goods and services.

Until within the past few years most standard of living studies were concerned with towns and cities, and farm living was compared with standards set up by the town and city centers. Considerable comment has arisen as to the advisability and fairness to the rural families in making such a comparison. Farm families seek to improve their position in agriculture through improvements on the farm, and therefore it can be said that there is less conspicuous display in farm family living when compared with urban family living, due to the differences in consumption habits and the more narrow variety of goods and services purchased by the farm family.

What use can be made of the information gathered through studies of farm family living? The information pertaining to the distribution of the annual expenditures among the principal groups of goods and services for farm family living is of interest and use in several ways. Families of different composition or make-up may check the costs or values of the goods and services which they use against the averages for other families within the same area. Such a comparison will give a family some hint of the ways wherein its own living differs from the averages for some other farm families within the same area as well as in other sections of the United States.

A further way in which this information is of value is in calling attention to the goods furnished by the farm and the valuable addition which these make to the family living. Farm families often have little realization of the total amounts or the value of the milk, cream, eggs, poultry, pork, beef, vegetables, fruits, and other products which are produced on their own farms for household use. Various studies in other states have shown that the value of these home produced goods makes up a great part of the family living.

Finally, such information furnishes a background for taking advantage of suggested means for improving farm family living. Widely circulated suggestions for improving diet, for example, can be better judged when the family knows the money value of foods furnished by the farm and the total cost of foods provided by direct purchase. Decisions as to the advisability of purchases of certain items for the family are easier if the amounts usually spent for these items by groups of families in the same circumstances are known.

The spending of the family income is today largely in the hands of the homemaker; the management of this income involves much more than going shopping and paying bills. A knowledge of how and for what the available money is spent is essential to wise management. It also involves the weighing of needs and desires, the making of decisions and choices, and the careful consideration of their effect upon the life of the family and upon its plans.

Plans for the future agricultural activities of the state center around the possibilities for satisfactory living on the farm. It is believed that through the cooperation of farm families in supplying information concerning the present cost and quality of rural living, valuable information can be obtained and later published for the benefit of those interested in comparing their living with that of others for the purpose of better balancing their distribution of expenditures for family living.

FAMILY LIVING SCHEDULE

County _____

Confidential

Sept. 1, 1936--Aug. 31, 1937

Enumerator _____

Colorado State College

Date filled _____

Sched. No. _____

Dept. of Economics and Sociology

A. Name _____

P.O. _____

Location _____

B. Color and Nativity _____

Tenure Status _____

Acres Operated _____

Acres Owned _____

C. Personal Data: Years farming as Tenant _____, as Owner _____.

Line No.	Relationship to Head of Household	Sex	Year of Birth	Mos. in Hsld.	Marital Status	Education		Last Grade Comp.	Occupation	Reason Not Working
						In School	No			
1	2	3	4	5	6	7	8	9	10	11
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										

D. Number births during schedule year _____

Number deaths during schedule year _____

(6131-37)

E. Summary Statement, all cash receipts and expenditures for year of study.

Nature of Transaction	Receipts	Expendit.
Gross Cash Receipts (Farm)		
1-Fixed Investment Sales		
2-Livestock		
3-Livestock Products		
4-Crop Sales		
5-Miscellaneous		
Total (Farm)		
Gross Cash Expense (Farm)		
1-Fixed Investment Purchases	
2-Other " "	
3-Operating (labor, fertilizer, etc.)	
Total (Farm)	
Net Cash Farm Receipts		
Gross Cash Receipts (All Sources)		
1-Farm		
2-Outside Earnings (All Members)		
3-Money Borrowed		
4-Other		
Total (All Sources)		
Gross Cash Expense (All Purposes)		
1-Farm	
2-Interest Paid	
3-Debts	
4-Other Property	
Total (All Purposes)		
Net Cash Spondable Income		
Cash Expenditures for Family Living		
Accumulation or Deficit		

F. THE FARM DWELLING

1. Total number of rooms _____
2. Indoor water supply
☐ Running hot & cold
☐ Running cold only
☐ Hand pump only
☐ None
3. Bathroom, yes ☐, no ☐.
4. Kitchen sink, yes ☐, no ☐.
5. Type of heating facilities
☐ Central furnace
☐ Stoves other than kitchen.
☐ Fireplace
☐ Kitchen stove only
Other, specify _____
6. Lighting Facilities
☐ Kerosene
☐ Gasoline
☐ Electricity
7. Source of electric power
☐ Power line
☐ Home plant
Other, specify _____
8. Cooking fuel
☐ Wood, coal, cobs
☐ Kerosene or gasoline
☐ Electricity
☐ Natural gas
Other, specify _____
9. Is your dwelling house constructed of wood? _____, Brick? _____.
Stucco? _____, or Other materials? (specify) _____
10. How old is your dwelling house? _____ years.
11. How much do you estimate your dwelling house to be worth? \$ _____

Estimated annual housing cost (10% of est. value of dwelling)

\$ _____

G. Food

1. Total cost household food purchased. _____
2. Cost meals away from home (family members) _____
3. Value of specified food items furnished by farm and consumed at home.

Item	Value	Remarks	Item	Value	Remarks
Flour			Canned Veg.		
Honey			Stored Veg.		
Milk			Fresh Veg.		
Cream			Melons		
Butter			Berries		
Eggs			Cherries		
Chickens			Apples		
Turkeys			Canned Fruits		
Lard or Sub.			Dried Fruits		
Pork					
Beef					
Mutton					
Fish					
Spuds			Total		

4. Composition of usual diet. (Check)

Item	Pur- chased	Fur- nished	Remarks	Item	Pur- chased	Fur- nished	Remarks
Flour				Melons			
Sugar				Berries			
Syrup				Canned fruits			
Honey				Dried fruits			
Tea				Canned Veg.			
Coffee				Stored Veg.			
Milk				Fresh Veg.			
Cream				Oranges			
Butter				Bananas			
Oleomargine				Cherries			
Eggs				Apples			
Chickens							
Turkeys							
Lard or sub.							
Pork							
Beef							
Mutton							
Fish							
Spuds							
Yams							

H. Clothing Costs of Family Members

1. Total cost purchased clothing. _____
2. Cost materials for homemade clothing _____
3. Cost of cleaning, shoe and other clothing repair _____

I. Expenditures for Health, Sickness, Births, and Deaths

- | | |
|---|-------------------------------------|
| 1. Births (other than doctor & nurse fees)_____ | 7. Dentist_____ |
| 2. Physician and surgeon_____ | 8. Oculist and glasses_____ |
| 3. Nurse & other attendants_____ | 9. Other Expenses_____ |
| 4. Hospitalization_____ | 10. Total (1-9) costs incurred_____ |
| 5. Deaths, including cemetery expenses_____ | 11. Cash paid during year for |
| 6. Drugs, supplies, appliances_____ | health costs incurred prior to |
| | survey year_____ |
-

J. Formal Education

- | | |
|-----------------------------------|---------------------------------|
| 1. School books and supplies_____ | 4. Transportation_____ |
| 2. Tuition_____ | 5. Living expenses if attending |
| 3. Music lesson fees, etc._____ | school away from home_____ |
-

K. Household Operation Expenditures

- | | |
|---------------------------------------|----------------------------------|
| 1. Fuel purchased_____ | 7. Ice (for hsld. use)_____ |
| 2. Value and kind fuel furnished_____ | 8. Domestic help_____ |
| 3. Light_____ | 9. Repairs on home dwelling_____ |
| 4. Water (for hsld. use)_____ | 10. Insurance on home and equip- |
| 5. Telephone_____ | ment._____ |
| 6. Laundry supplies_____ | |
-

L. Transportation Expenditures

- | | |
|-------------------------------|--------------------------------|
| 1. Year auto purchased_____ | 7. Cost for sched. year_____ |
| 2. Make and model_____ | 8. Mileage for year_____ |
| 3. Purchase price_____ | 9. Per cent mileage for family |
| 4. Insurance and license_____ | use_____ |
| 5. Oil, gas, grease_____ | 10. Train and bus fare (other |
| 6. Repairs_____ | than business)_____ |

M. Household Furnishings and Equipment

1. Cleaning equipment	8. Table ware
2. Furniture	9. Kitchen utensils
3. Floor covering	10. Electrical appliances
4. Ornaments	11. Laundry equipment
5. Musical instruments	12. Sewing equipment
6. Lighting equipment	13. Refrigeration equipment
7. Radio	14. Other

N. Advancement Expenditure

1. Religious donations	9. Books other than school
2. Charitable donations	10. Other
3. Moving pictures	
4. Plays	
5. Dancing	11. Daily newspapers
6. Athletics	Weekly newspapers
7. Vacation and pleasure trips	Farm journals
8. Club organ. dues	Women's magazines
	Popular magazines

Number	Cost

O. Miscellaneous Personal

1. Toilet goods	4. Beauty shop
2. Cosmetics	5. Personal jewelry
3. Barber	6. Tobacco
	7. Other

P. Insurance and Savings During Year

1. Life Insurance	3. Savings (bank and postal)
2. Health and accident ins.	4. Investments

Q. Social Participation

Type	Family Members Participating	Remarks
Religious		
School		
Adult education		
Farmers org.		
Youth		
Athletic		
Fraternal		
Patriotic		
Community		

R. What three things would you most like to have to add to your family's standard of living?

1. _____
2. _____
3. _____

S. What things were purchased during the year on the installment plan or on credit?

2. Have payments been completed on these articles? _____
3. If not, how much remains unpaid? _____

ABSTRACT OF THESIS

**FARM FAMILY LIVING
IN THE NORTHERN COLORADO
IRRIGATED DISTRICT**

**Submitted by
Ralph W. Roberts**

ABSTRACT OF THESIS

by

Ralph W. Roberts

FARM FAMILY LIVING IN THE NORTHERN
COLORADO IRRIGATED DISTRICT

The past decade has seen the growth of significant interest in the study of rural problems centering in farm family standards of living as evidence of rural well-being.

Prevailing standards of living have been described and portrayed for many states, but Colorado is among those remaining few in which little attention has been devoted to this important phase of social improvement. Therefore, it seems pertinent that some attention be given to developing a method of studying farm family living in Colorado.

The first purpose of this study was to develop and test a method for studying farm family living in Colorado.

A second purpose of this study was to analyze in detail the aggregate family living of a group of farm families located in one of Colorado's major type-of-farming areas.

Many European studies of expenditures for family living have been made, some dating as far back as 1400. The principal European studies which have significant

bearing on American family living studies have been those of Frederic Le Play (1806-1882), which have contributed much in the field of methods of study, and Ernst Engel (1821-1896), who introduced the use of statistical measurements as a method for an accurate analysis of material well-being of a family or a group of families.

Since the close of the World War many studies have been made of farm family living. Ellis L. Kirkpatrick began his investigations of farm family living and contributed the most complete set of data currently available. His study pertains to 2886 farm families of selected localities in eleven states and covers the period, 1922-1924. Also of major importance are the contributions of Carle C. Zimmerman and Merle E. Frampton which have done much to clear the way for an improved scientific method of investigation in family living.

The preparation and arrangement of the field schedule used in this study follows closely that which has been used in other studies except that it is not concerned with as much detailed information. All information was secured through a personal interview with each family included in the study; this is known as the "survey method."

A combination of the Le Play and the Engelian methods of investigation and analysis is used in making

this study. Le Play's method of study was strictly the case method. Engel concentrated his efforts more on methods of analyzing data than in collecting it. Therefore, in combining the general procedures used by Le Play and Engel in their studies, two plans have been followed in making this investigation. In so far as such was possible, the case method was used in collecting information on farm family living in order that the materials could be interpreted with reasonable accuracy. The other policy followed through the presentation of this material is that of presenting tabulated data affording a comparison of relationships between the groups of items for which the farm family expenditures are made.

It was decided that for a preliminary inquiry into farm family living, an area in which there exists something near a uniform level of living would be best; after discussing the selection of such an area with reliable and informed persons, it was decided that a small locality representative of the northern Colorado irrigated district seemed appropriate. The consensus of opinion of reliable persons led to the selection of the Harmony and Timnath locality southeast of Fort Collins, Colorado, as fairly representative of the northern Colorado irrigated district.

The field work was conducted during the fall and winter of 1937, and covers the period of September 1,

1936, to August 31, 1937. Therefore, all data presented in this thesis for the families studied pertain to the twelve-month period covered by this study.

The farm families included in this investigation were selected on the basis of both husband and wife being represented in the family. In most cases the husband and wife were farm operator and homemaker respectively. A list of names of possible cooperating families was secured from persons familiar with the area to be studied, and letters explaining the nature of the proposed study were mailed in advance to most of the homemakers whom the investigator expected to interview.

Calculations indicate that the sample is statistically reliable, but no conclusive proof of variations among owner and tenant families is justified because variations in the reports given by the farm families are so small that they are very likely due to chance. However, a parallel comparison was made of the reports given by owner and tenant families primarily to determine if the same method of investigation would result in similar reports for owner and tenant families.

Of the 42 farm families investigated, 57.2 percent were farm owners and 42.5 percent were farm tenants.

Owner families averaged 3.9 persons and tenant families averaged 3.6 persons. Tenant families reported a greater number of family members under 16 years of age.

Homemakers reported a higher average educational attainment than farm operators; however, little difference was reported between the education of owners and tenants. The reports of all 42 farm families show that 83 percent of farm operators and homemakers did not complete a high school education.

The average age of farm dwellings as reported was about 42 years for both owner and tenant families, but tenant family dwellings show a slightly larger representation in the older age groups. There appears to be little difference in the average size of owner and tenant dwellings, as the average for each was about 7 rooms per dwelling. The same indication is true in the comparison of the number of bedrooms in owner and tenant dwellings, as the average number was about 3 per dwelling. The average value of dwellings was reported to be \$2400 and showed a slightly higher value for owner dwellings than for tenant dwellings.

Only 4 of the 42 farm dwellings in the study had all modern facilities. Farm tenant dwellings averaged one facility fewer than the number reported in owner dwellings. The 42 farm dwellings reported a total of 140 or an average of 3.3 facilities each; the owner dwellings averaged 3.7 facilities as compared with 2.7 facilities averaged by tenant dwellings.

The families spent an average of \$1159.21 each for all purposes of family living during the schedule year,

and of this, \$762.19 was spent in cash, and \$337.02 was furnished. Owners supplied food, fuel, and housing from the farm to the value of \$412.91, and tenants \$375.83. For the entire group of families about 65.7 percent of the total value of living was purchased, and about 34.3 percent was furnished. Tenants produced about 3 percent more of the food used and therefore purchased less food than owners. For only one item, that of education and advancement, did the expenditures of tenant families on the average exceed that of owner families. However, in general there appeared little variation in proportions of expenditures for different items as reported by owner and tenant families.

Approximately 25 percent of the expenditures for automobile operation was estimated as attributable to farm family use. All 42 farm families reported ownership of one or more automobiles. Seven families reported automobile trades during the schedule year, and all but one trade was for a new automobile. The estimated cost of automobile operation for the schedule year, exclusive of depreciation, was an average of \$96 per family.

Almost all families reported some church attendance. Other organizations attended by the 42 farm families were agricultural, educational, fraternal, civic, and womens' clubs. The extent of attendance of owner families exceeds that of tenant families in all activities

except those of a religious or fraternal nature.

By far the largest number of improvements desired by the 42 farm families was in the nature of home conveniences. The outstanding items named as desired were a piped water system, electricity, kitchen range, and iceless refrigerator. All families not already having electricity in the dwelling expressed a desire for that facility as a first choice.

A comparison of the distribution of expenditures as reported by the farm families included in this study with the study made of 2886 farm families in 11 states indicates that the Colorado farm families studied have a value of living distributed over the items entering into the living which in general compares favorably with that of the 2886 farm families in the 11 states. When it is considered that the study of the 2886 farm families was made during the years of 1922, 1923, and 1924, when food prices were higher than they were during the period of time covered by this study, it appears even more likely that there is little difference in the food consumption of the 42 farm families as compared with that of the 2886 farm families.

The investigator is of the opinion that the schedule used and the method of investigation followed in conducting this study are generally satisfactory. However, he feels justified in making a few suggestions which might be of value to others who might undertake

investigations in the same general field as this one. The following suggestions seem pertinent and constructive:

1. Primarily because of the complicated nature of farm business transactions, an attempt at securing data pertaining to cash receipts and expenditures was generally unsuccessful. The writer feels that this problem could be solved if both family living and farm management studies were conducted concurrently for the same families.

2. The tabulations revealed that the usual diet among the farm families in this study was uniform; for that reason it did not seem necessary to include this material in the discussion. It is the writer's opinion that the collection of such data could be discontinued without materially affecting the value of the study.

3. The effect of the sex composition of the family and the age of the family members is noticeable in the distribution of expenditures for family living. Therefore, it is felt that more attention should be devoted to this aspect of family living.

4. The writer suggests that expenditures for health and sickness be tabulated separately from those incurred by deaths and funerals.

On the basis of a comparison of schedule and account methods of collecting data on family living made by the United States Department of Agriculture, a combination

of the two methods seems to constitute a satisfactory form for investigating farm family living. The writer is of the opinion that such a combination of methods would likely result in less estimation by cooperating farm families if it were applied to use in Colorado.

The preliminary nature of this study with its limited scope cannot be considered as a measure of adequate farm family living in the northern Colorado irrigated district. An analysis of the material gathered in this study has been presented principally for the purpose of providing an index indicative of what might be expected with regard to Colorado farm families from a study sufficiently extensive in scope to justify constructive conclusions. Therefore, it is hoped that the presentation of this study will stimulate discussion and further study of standards of living in Colorado.