Nanking
Academic
College of Agriculture + Forestry
Land Utilization Project
1928, n.d.

APPENDIX B.

THE UNIVERSITY OF NANKING

Nanking, China

February 9, 1928

Mr. L. T. Chen, Executive Secretary,
Chinese Committee, Institute of Pacific Relations,
20 Museum Road,
Shanghai.

Dear Mr. Chen:

I take pleasure in submitting herewith for the consideration and action of your Committee a research project on Land Utilization in China, to carry out which we greatly need and desire the full cooperation and financial assistance of the Institute of Pacific Relations. The project will be carried out under the general direction of the College of Agriculture and Forestry through its Department of Agricultural Economics, Farm Management, and Rural Sociology, already well known for its studies of rural problems in China.

Along with the main project, please find also the following exhibits:

Exhibit A. A general statement of the University of Nanking.

Exhibit B. A statement relating to the Department of Agricultural Economics, Farm Management, and Rural Sociology.

Exhibit C. Information concerning experts requested from abroad to assist in carrying out the project.

Trusting that the project may receive your favourable recommendation, and assuring you of our desire to cooperate in every way possible in the purposes of your Institute, I am,

Yours very sincerely,

(Signed) Y. G. Chen
President.

Title: Land Utilization in China
Date: February 1, 1928

Definition of topic: This study consists of (1) a main project pertaining to the general aspects of land utilization and of (2) a sub-project on problems of population. The sub-project contributes to a fuller understanding of the main project in that it provides data on growth, density, and migration of population. In general terms the project may be defined as follows:

1. The agricultural aspect: this includes the extent, character, and productiveness of arable and non-arable land; character and amount of irrigation and drainage and its possible extended use; crop areas; forest and fuel areas; grazing areas; size of farms; land tenure; arrangement of fields (strip system), and also the present and prospective food, fiber, fuel, and forest-products requirements.

2. The geographic aspect; this consists chiefly of information upon climatic conditions: topography and soil conditions which influence utilization of arable and non-arable land; and the location of land with reference to markets for its products.

3. The demographic aspect: this involves studies of the trend, density, migration, and distribution of population.

4. The social aspect, as shown in standards of living and in the economic use of the land and its products, especially food.

Purpose and need of the investigation:

1. To provide increased knowledge of agricultural resources of representative regions in China, which have different geographic conditions.

2. To provide training for men who will be competent to pursue similar studies.

3. To provide preliminary information which will aid greatly in the successful conduct of China's part in the World Agricultural Census in 1930-31 in cooperation with the International Institute of Agriculture at Rome. An inventory of China's agricultural resources is recognized as one of the first steps in an understanding of the nature and character of her agricultural industry. A farm to farm canvass in 1930-31 will undoubtedly be impossible, but it is probable that reliable estimates by the sampling method will be feasible. The initial work suggested in this project will indicate the problems involved and ways of obtaining the information. Statistics on Chinese agriculture will raise China's prestige among other nations now having more complete data. At present China is omitted in reports of agricultural statistics for various countries.

4. To provide information which will show the relationship between kinds of land ultization, and population density and standards of living.

5. To provide information which will be of value in determining more efficient methods of utilization of present food products.

6. To indicate how land might be utilized to produce a larger amount of products necessary for a higher standard of living.

7. To supply further population data which would be of use in settling the controversial positions now taken in regard to population growth in China.

Relation to purpose of the Institute: A knowledge of methods of land utilization for representative regions is essential to an understanding of the character of China's agricultural problems in relation to such international questions as population growth and food supply. Such information will not only lead to a better realization of the technical agricultural problems of the country, but should reveal methods of increasing the efficiency of agriculture in China and in other countries bordering the Pacific. The data pertaining to population problems should promote better understanding by bringing facts to bear upon the controversial questions of the rate of growth of population and that of the relation between density of population and human well-being.

Method: Two methods will be employed in the collection of the desired data.

I. Compilation of existing information

All information of worth which exists in published or unpublished form will be collected and compiled with the purpose of preventing duplication of effort in this project and of making available in a single study all information pertaining to land utilization.

II. Field Studies

The field studies will be limited to representative farming areas in the natural regions of China. From one to ten typical types of farming areas will be chosen in each region. Units within the farming areas, like the hsien, the township, the village, the farm and the farm family, will be used to facilitate obtaining the required data. The natural region has been chosen because it is the most logical basis for any land utilization study. Typical farming areas are used as the chief unit because they are a reflection of geographical factors.

It is planned that all existing information which might be of aid in field investigations be compiled previous to the main field studies. This can be done at the same time that preliminary field investigations are being made in several farming areas in one natural region for the purpose of testing out schedules, methods, and personnel. It is desired that Dr. Baker be present for this preliminary work and that if his time must be limited to one year that it be divided into two periods of six months each, the first to be spent in China at the beginning of the investigation, and the second at the end of the investigation, to take part in interpreting the data and in writing up the results of the study. The methods suggested in this project are tentative and subject to change as experience is gained in the progress of the work and as the knowledge of additional experts is brought to bear upon the problems in hand.

The study is limited to the sampling survey method and to the most important farming areas for the following reasons:

(1) Our past experience has shown that the most accurate and extensive data can be obtained from localities where we already have special contacts through our own faculty members and students or through Christian churches, friends, or organizations. We have used this method in our past studies and it has proved very successful. (2) The obtaining of field information for all districts for the whole country is unwise at the present time because

(a) The number of persons in China with any training in this type of work is too few.

(b) The financial outlay would be too great to incur before established methods of procedure can be worked out by means of a preliminary study.

(c) It seems better to plan for it in connection with the World Agricultural Census in 1930-31. The cooperation of most countries has been already obtained by the International Institute of Agriculture at Rome and China's prestige will be greatly strengthened if she can send in reliable statistics even if they are only very careful estimates based upon a sample survey method.

(d) At the present time unsettled conditions make it difficult to be certain of obtaining data from all districts of the country.

(e) The sampling method will reveal the chief kinds of land utilization in different parts of the country.

A. Units of study - <u>The farming area</u>

1. Main project.

Eighty to one hundred farming areas will be chosen from the major natural regions. The information obtained from each of these areas as a unit will be collected from observations of the investigator and from individuals who have a wide knowledge of local conditions, such as, township or village heads. Information from these persons will be largely of a qualitative nature but will also contain quantitative estimates. Experience has taught us that for certain types of information such estimates are very useful when properly verified by estimates of several individuals or by actual quantitative data. The extent to which either qualitative data from individuals knowing local conditions, or quantitative data from individual farms, or both, to be used will be determined by conditions as found in the various localities. It may be that both methods will be used in all areas studied, but that each method will be largely confined to certain types of information.

(a) <u>Information collected by the investigator's observations</u>. This includes (1) topography, (2) soil conditions, (3) geological formation of bed rock, and (4) other important general descriptive information about the region which can only be obtained by personal observation.

(b) <u>Information collected by interview with experienced individuals of several villages or townships in the farming area, or by quantitative data from twenty-five or more farms in each farming area, or both</u>. This includes information on the agricultural aspect pertaining to (1) areas devoted to each crop

during the past year and trends, (2) cropping systems, (3) the average yield of each crop over a ten-year period, (4) the highest yield ever obtained, (5) the trend in yields, (6) prices of crops and trend, (7) utilization of crops and their by-products, (8) character and amount of irrigation and drainage, (9) size of farm, (10) size of family, (11) area of the farm owned, (12) area of the farm rented from others, (13) renting systems and landlord-tenant relations, (14) number of non-contiguous pieces of land in the farm, (15) amount and source of other net income than that received from the farm business, (16) value of the land per unit, and (17) relation of fertilizing practices to land utilization.

For the social aspect it will include data pertaining to (1) quantity and value of each kind of food consumed annually, (2) forms in which the food is eaten, (3) quantities and values of each kind of fuel consumed, (4) quality and values of all expenditures for clothing, (5) cost of maintenance of health, (6) cost and kinds of recreation, (7) cost and amount of education, (8) amount and kind of savings, (9) living conditions in reference to type of house and furniture, (10) sanitary conditions, (11) amount or proportion of food eaten during periods of heavy work and periods of leisure, (12) amount and distribution of farm capital investment among different items, (13) areas and production for each kind of crop, (14) the value and amount of each product sold, used by the family or used for seed or feed, (15) farm expenses, (16) credit.

B. Units of study - The hsien (county)

1. Main Project.

The hsiens in which farming areas are selected for study will be used as units for procuring the following types of information: (1) total arable area for different classes of land, (2) total uncultivated area for different classes of land, (3) the amount of uncultivated land devoted to various purposes, (4) the amount of uncultivated land which might be cultivated and the use to which it might be put, (5) the trend in uncultivated land and the kind and amount of food imported and exported for the hsien, (6) and a brief description of the general conditions in the hsien. Available official data will be obtained in person from magistrates' offices and from other units of local government. Such data will be checked and supplemented with field estimates and surveys of area: first, to determine the accuracy of official data; second, to find additional information; third, to determine the feasibility of obtaining official and field data by the sampling and estimate method from all hsiens in China for the World Agricultural Census.

C. Units of study - The farm family.

1. Sub-project on population.

The population data will be collected for several thousand farm families in the same five or six areas that standards of living studies are conducted and will include the total population of each village or hamlet where data is obtained. It will consist of (1) information for the previous year upon size of each patriarchal family, (2) age and sex of each member of the family and his or her relationship to the head of the family, (3) number of births and deaths during the year, (4) number of stillbirths, (5) the age at death and the cause, (6) amount of infanticide, (7) occupation of each member of the family, (8) migration

of family members during the year away from or back to the family, (9) migration history of the head of the family and that of his recent ancestors, (10) history of migration of whole families from the village and the place and occupation to which they have gone, (11) location of absent members of the "economic" patriarchal family, (12) the extent of assimilation of immigrants of one locality by the natives of another, and (13) signs of increasing or decreasing population such as new or more crowded residences.

Personnel: Experts from abroad:

Dr. O. E. Baker, Economic Geographer; Mr. Edgar Sydenstricker, Statistician.

Staff of University of Nanking:

J. Lossing Buck, W. Y. Swen, C. M. Chiao, and five other associates from the Department of Agricultural Economics, Farm Management, and Rural Sociology, and one or two associates from the Department of Forestry.

Cooperating:

Dr. George B. Cressey, Geologist-Geographer of Shanghai College.

Collaboration: In addition to the collaboration between Departments in the University of Nanking and with the experts mentioned under personnel, cooperation will be sought from other institutions in China having some contribution to make, such as, the Chinese Government Bureau of Economic Information, the Sicawei Observatory, the China Agricultural Society, and the Science Society of China. The cooperation of the Bureau of Agricultural Economics of the United States Department of Agriculture is also expected. The cooperation of some home economics expert in China will be obtained for assistance in gathering and in interpreting data pertaining to the nutrition part of the standards of living study. We have in mind Miss Miriam Null of the Presbyterian Board of Foreign Missions, who was formerly a teacher in Ming Deh Girls' School, Nanking, and who will be returning to China in September 1928.

Time: Two years will be required for this project, which is only preliminary to what is hoped will be a more extended study throughout the country and a continuous study over a long period of years for certain types of information, such as, standards of living and population growth.

Cost (U. S. currency): Items of expenditure		Main project	Sub-project: Population		Total cost
Experts from abroad (salary and travel to China and return)					
Economic Geography (one year)		$8,200.00			
Statistician and Population Expert (two years)		13,200.00			$21,400.00
Secretary (for stenographic and editing work)		3,000.00			3,000.00
Translator	(1)	2,700.00		(1)	2,700.00
Associates"	(4)	5,280.00	(1) $1,320.00		
	(1)#	1,320.00		(6)	7,920.00
Assistants (field)	(12)	4,680.00	(4) 2,880.00	(16)	7,560.00
Assistants (clerical)	(13)	6,240.00	(4) 1,920.00	(17)	8,160.00
Travel:					
Economic Geographer		1,000.00			
Associates	(4)	3,600.00	(1) 1,200.00		
1 or 2 Associates of Dept. of Forestry		1,800.00			
Geologist-Geographer		500.00			
Statistician		300.00	300.00		
J. L. Buck		600.00			9,300.00
Supplies:					
Stationery, materials printed schedules, postage, outline maps, etc., containers for soil samples		1,150.00	300.00		
Photographic supplies		250.00			1,700.00

"The numerals in parentheses indicate the number of persons.
#For the Department of Geography of Shanghai College.

Cost (cont.)
(U. S. currency)

	Main project	Sub-project Population	Total cost
Equipment:			
3 Calculating machines	$1,500.00		
Reference books maps and journals	2,000.00		
3 Chronometers	450.00		
1 Theodolite	300.00		
3 or 4 Cameras	300.00		
2 Typewriters	250.00		
Office furniture	300.00		$5,100.00
Publications	2,200.00	$600.00	2,800.00
			$69,640.00

Publication: The results of this study will be published by the University of Nanking. It is desirable that there be one general publication dealing with the study in all of its various aspects. The more specialized information on population will probably be made available as a separate study. Publication in Chinese can probably be effected through the Commercial Press on a commercial basis.

Exhibit A

THE UNIVERSITY OF NANKING

General Statement

The University of Nanking is a private Christian institution with a Board of Trustees in New York who lease the property and make annual money grants and provide personnel quota, and a Board of Directors in China, a majority of whom are Chinese elected by the church bodies cooperating in the University and who are responsible for its management. The University is organized into administrative units, the more important of which are the College of Agriculture and Forestry, the College of Arts and Science, and the University Library.

The College of Agriculture and Forestry has a faculty of eight returned students, twenty-six graduates of China colleges, twenty-four of whom are graduates of the College of Agriculture and Forestry, ten foreigners giving their full time, and twenty-seven assistants. Due to recent political disturbances, only two of the foreign faculty are at present on the field. More are expected to return by the autumn of 1928.

The College of Arts and Science has a faculty of twenty returned students, nineteen graduates of colleges in China, and ten foreigners, of whom two are at present teaching at Nanking and others are expected back in 1928. There are Departments of Chemistry, Chinese, Economics, Education, English, History, Library Science, Mathematics, Philosophy, Physics, Political Science, Psychology, Religion, and Sociology.

The Library has a well-trained staff of librarians and assistants and an excellent collection of foreign and Chinese books and pamphlets. A special research section is maintained with funds specially provided by the College of Agriculture and Forestry. The Library is a depository for the publications of the League of Nations and of many scientific and research organizations.

The total budget of the University for 1926-1927, for the above three administrative units, was Mexican $277,913.10, and for 1927-1928 is Mexican $255,926.66. Normally, about $66,232.00 is received in student fees, or approximately 24% of the budget. The balance of the budget is received from the United States, either from special grants or through mission board appropriations.

The programme of the College of Agriculture and Forestry and Agricultural Experiment Station includes instruction, extension, and research. The College has Departments of Agricultural Economics, Farm Management, and Rural Sociology; Agronomy; Biology, with sections in Bacteriology, Botany, Plant Pathology, and Zoology; Forestry; Horticulture; Rural Education; Sericulture; and Extension. The College is well provided with lands for its experimental work, for improved seed production, mulberry orchards, and general horticultural work. Its work is all adequately housed. It has cooperative relationships with several provincial governments, with private organizations in China carrying on similar lines of work, and with the International Education Board and Cornell University jointly, in a crop improvement programme. In

1923, in recognition of its work, about Gold $700,000.00 was allocated to it by the American Committee for China Famine Fund, this sum being part of money left over from the appeal for funds for China famine relief in 1921, and with which the College is carrying out a number of famine prevention projects. The College provides one-year courses in Agriculture and Rural Teacher Training, and summer school classes for rural workers. Through its Extension Department it is getting directly into the farmers' hands better seeds, improved silkworm eggs, methods of disease control, helps in organizing cooperative enterprises and in many other ways. Through its research and investigation it is making available much new information and knowledge pertaining to the problems and improvement of agriculture, forestry, and rural life.

Regarding the influence of the disturbed political conditions of the past year on the University, it should be noted that the faculty and student body have met the attendant difficulties with a splendid spirit of cooperation and courage; that all our college buildings and field activities escaped damage, although heavy property losses were incurred by the other administrative units of the University; that classes were resumed within a few weeks after the chaos caused by the capture of Nanking on March 24, 1927; that the faculty (excepting the foreign members) were kept intact and new teachers were secured; that practically all experimental and research work of the College of Agriculture and Forestry was carried on according to schedule and was not affected by the disturbances; that a summer school was held registering 300 students; that College opened on the scheduled day in September, in spite of battles and broken communications; that 420 students enrolled in the two Colleges, and that the term's work has progressed most satisfactorily. With the quieting down of military and political disturbances, we are expecting a normal enrolment or better for the 1928 spring semester - of at least 500 to 550 students. The Board of Directors has asked for the return of our foreign staff by the Board of Founders by September 1928. The way the University has carried on during so many difficulties gives us every reason to feel confident of the future.

Respectfully submitted,

(Signed) Y. G. CHEN,
President.

Exhibit B

THE UNIVERSITY OF NANKING

Statement Concerning the Department of Agricultural Economics, Farm Management, and Rural Sociology, College of Agriculture and Forestry, University of Nanking

The Department of Agricultural Economics, Farm Management, and Rural Sociology was organized in 1922, although some teaching of these subjects had been done and two farm management surveys had been made previously.

Personnel of the Department

J. Lossing Buck, B. S. (1914) M. S. (1925) Cornell University.
P. C. Hsu, B. S. (1918) University of Nanking.
W. Y. Swen, B. S. (1924) University of Nanking.
C. M. Chiao, B. S. (1924) University of Nanking.
Assistants:

S. S. Ling, Middle School.
S. F. Yang, Chinese education. One year in Y. M. C. A.
R. H. Fang, Y. M. C. A. English and typewriting courses.
S. R. Cheng, Middle School.
T. L. Tsu, Middle School.
S. T. Kan, Higher primary school.
P. K. Cheng, Middle school.

Publications by the Department

Publications of the Department of Agricultural Economics, Farm Management, and Rural Sociology are listed below. The latest, "An Economic and Social Survey of 150 Farms, Yenshan, County, Chihli Province, China," accompanies this statement.

An Economic and Social Survey of 102 Farms Near Wuhu, Anhwei, China. Part I (in English), by J. Lossing Buck, December 1923.

An Economic and Social Survey of 102 Farms Near Wuhu, Anhwei, China. Part II (in English), by J. Lossing Buck, July 1924.

An Economic and Social Survey of 102 Farms Near Wuhu, Anhwei, China. (in Chinese), by P. C. Hsu and J. Lossing Buck, March 1925.

An Economic and Social Survey of 150 Farms in Yenshan County, Chihli, China (in English), by J. Lossing Buck, June 1926.

A Study of Farm Tenancy at Quinsan and Nantung, Kiangsu, and Suhsien, Anhwei (in Chinese), by Chiao Chi-ming, May 1926.

Farm Ownership and Tenancy in China, by J. Lossing Buck, August 1927. Published by the National Christian Council, Shanghai, China.

A Rural Community Survey Blank (in English) by J. Lossing Buck, translated by P. C. Hsu into Chinese. Two editions, 1922 and August 1924, the second very much enlarged.

Farm Management Survey Blank, for obtaining a record of a year's business on the farm as well as other data relating to the farm family. (in Chinese). 1922.

Method of Locating the Rural Community, by Chiao Chi-ming, May 1926.

Practical Farm Bookkeeping, by Swen Wen-yuh, July 1926.

Making Earth Wads, by Chiao Chi-ming, November 1926.

Reprints

Mapping the Rural Community, by C. M. Chiao. (Reprint from the Chinese Recorder.) December 1924.

Price Changes in China, by J. Lossing Buck. (Reprint from the Journal of the American Statistical Association). June 1925.

In Manuscript or Mimeographed Form

A Study of Chinese Weights and Measures, by Swen Wen-yuh. (In English.) (Manuscript.)

Types of Farming, Cost of Production, Labor Distribution and Farm Practices at Lin I, Shantung (in English), by Swen Wen-yuh. (Manuscript.)

Types of Farming, Cost of Production, and Labor Distribution at Weihsien, Shantung, by Swen Wen-yuh. (Mimeographed)

A Study of the Marketing of Wheat, Kaoliang, Soy Beans and Sesamum at Suhsien, Anhwei, by P. C. Hsu. (Manuscript)

In Preparation

An Economic and Social Study of 2866 Farms in Seventeen Regions of Seven Provinces, China (1922-1924).

Exhibit C

THE UNIVERSITY OF NANKING

Information Concerning Experts Requested

The Economic-Geographer

A person with wide experience in Economic Geography, particularly as it relates to agriculture, is necessary for the greatest success of the project and it is desired that Dr. O. E. Baker be brought to China for this purpose.

Dr. O. E. Baker has been especially interested in China and would be glad of the opportunity of spending some time here. He is particularly well qualified to assist in the proposed land utilization project, both because of his experience in the United States and because of the work he has done in the study of world agriculture, in which he has made a special effort to include data from China. Dr. Baker is already well known to the Institute of Pacific Relations so it is not necessary to dwell upon the many qualities which would make a visit from him profitable.

At present Dr. Baker is agricultural economist in the Bureau of Agricultural Economics, United States Department of Agriculture, Washington, D. C., and also Professor of Agricultural Geography and Land Utilization at Clark University, Worcester, Massachusetts.

He is author (with V. C. Finch) of The Agricultural Geography of the World; he is a contributor to The Book of Rural Life; and was in charge of the Agricultural Yearbook (United States Department of Agriculture) for 1923. He was also editor of The Atlas of American Agriculture.

Dr. Baker's training has been as follows:

Heidelberg College, B. Sc. (1903), M. Sc. (1904)
Columbia University, M. A. (1905)
Yale Forestry School (as a student)
University of Wisconsin, Ph. D. (1921)

Dr. Baker will be of invaluable assistance both as a geographer and as an agricultural economist. It is desired that Dr. Baker come for two periods of six months each, one at the beginning of the project in September 1928, and the other for the last six months, beginning with March 1930. It is important that Dr. Baker assist both in the preliminary and the final work of the project.

The Statistician

A statistician is essential not only for this project but for the efficient conduct of all the statistical work of the Department of Agricultural Economics and Farm Management as well as that of other related departments of the University of Nanking. A request is therefore included in this project for a statistician for a period of two years. The person desired is Mr. Edgar Sydenstricker of the United

States Public Health Service, Washington, D. C. His qualifications are as follows:

1. General:

Age forty-six years.

Born and reared until fifteen years of age in China and has kept in touch with developments in China.

He has a keen interest in the scientific study of some phase of China's economic and social problems. He has an international point of view based not only on his early experiences in China but also on his recent visit to Europe for the organization of the statistical section of the League of Nations.

2. Training:

B. A., Fredericksburg College; M. A., Washington and Lee.

Specialization in economics and sociology. Further graduate work at the University of Chicago in the subjects of economics and sociology. He expects to receive his Ph. D. in the near future.

3. Experience:

Principal of Onancock High School, Virginia.
Teacher in Lynchburg High School, Virginia
Editor of newspaper, Lynchburg, Virginia.
Statistician, United States Public Health Service (1913 to the present time). The work of these years has fitted him particularly to give us the help we need. He has made extensive and intensive surveys both of health in relation to family incomes, and of labour conditions. His chief work, however, has been to train others in methods of collection and interpretation and publication of data. One reason why it is possible to secure the services of Mr. Sydenstricker in China for a brief period is because he has successfully trained a sufficient force to carry on the statistical work of the Health Service during his absence. His statistical work has been the gathering and practical interpretation and publication of data rather than the more theoretical statistical work usually found in the class room.

He has been asked to give lectures on his methods before various statistical bodies in the United States and in Europe.

He was special lecturer in statistical methods for several years at George Washington University.

He was loaned by the Public Health Service to the Health Section of the League of Nations for the purpose of organizing and establishing a health statistical service in the League (1923-1924).

He has recently been appointed Technical Adviser to the Milbank Foundation, New York City, on the problem of measuring results in health betterment programmes.

4. Publications:

Author of numerous publications of the Public Health Service dealing with the relation of family incomes to health problems and conditions.

Conditions of Labor in American Industries, by W. Jett Lauck and Edgar Sydenstricker, Funk & Wagnall's Company.

5. In addition to these qualifications, Mr. Sydenstricker is a man

of keen mental ability, interpretative perceptions, and has the power of expressing the results of investigations in clear, concise, readable English.

His broad knowledge and interest in economic and social problems would be of especial advantage to us in discovering the fundamental problems with which we have to deal. His international point of view and his pleasing personality would make him very acceptable to the Chinese.

Geologist-Geographer

Cooperation has been assured of Dr. George B. Cressey of Shanghai College, Shanghai, China, for assistance in the geographical and geological phases of the project. Dr. Cressey has already done considerable field work in the study of geography and geological conditions in China and has issued a mimeographed edition of "Geography of China." His training has been:

Denison University, B. S. (1919)
University of Chicago, M. S. (1921), Ph. D. (1923)
Yale University, 1922

The only expense involved in this cooperation is the financing of an associate for Dr. Cressey in Shanghai College to amount of $1,320, which is included with the item of "Associates" under the topic of "Cost."

APPENDIX "E"

Title: The project proposed is the publication of material already compiled, entitled, A comparative farm management and social survey of 2866 farms in 17 regions in seven provinces of China (1921-24).

Date: January 3, 1928.

Definition of topic: The study is primarily one in farm management methods in typical regions in China, but includes related social and economic information pertaining to land utilization, population and food consumption. A careful selection of a large number of farms made it possible to determine which farms were successful and which were unsuccessful. A grouping of such farms by size of business and quality of business in relation to various efficiency factors such as, labor earnings per farm, labor earnings per man equivalent, net profits per crop mow, man labor per man, animal labor per labor animal, investment in farm equipment and farm buildings per mow and yields, made it possible to determine the cause of success or failure. Other significant information includes kind, area and production of crops, cropping systems disposal of crops, amount and distribution of each kind of livestock, fertility maintenance, amount and semi-monthly distribution of man and animal labor, size of family, density of rural population per square mile of cultivated area, age and sex distribution of the population, amount and source of income other than from the farm, value and distribution of real income by classified items such as food, fuel, clothing, rent and other expenses furnished by the farm and purchased, distribution by individual items of the real income from the farm and purchased, source and amount of food energy in the farm family diet and other information.

Purpose and need of the investigation: 1. To make available valuable data concerning agricultural conditions. This material is now partially in manuscript form and awaiting publication.

2. To provide government officials of the new Nationalist Government with reliable data on farming conditions which they hope to improve. Such officials are constantly coming to us for information of this nature.

3. To provide first hand material for use of students in China and abroad.

4. To supply the type of information which specialists in other countries are anxious to have about agricultural economic and social conditions in Rural China.

5. To reveal the factors which determine success or failure in farming in China.

6. To provide information relating to land ultization population and standards of living problems.

Relation to PURPOSE of the institute: The facts revealed in this study are the first of their kind to be made available about agricultural conditions in China. The data show how different countries are dependent on the same scientific principles in that the conclusions of the study indicate how fundamental principles in farm mamagement, as in any

other branch of agricultural science, hold true the world over. The quantities and values of the various factors which make up a successful farm business vary greatly just as the application of the principles of other branches of agriculture differ but the principles remain the same. A knowledge of the universality of such principles to-gether with their relation to the outstanding problems of population questions and standards of living as affected by the amount of land per farm family are of vital concern to all Pacific countries. The publication of this information should accomplish much in a mutual understanding between the countries bordering the Pacific as well as supplying needed technical information.

Method: The survey method was used in this study by obtaining individual farm records of a year's farm business on 100-300 farms in each of 17 regions. The regions studied are widely scattered and representative of large areas. Additional economic and social data were also obtained which related to the main purpose of the survey. A sample of the type of schedule used may be found in the Appendix of An Economic and social survey of 150 farms, Yenshan County, Chihli, China, published by the University of Nanking, and attached herewith. The proposed publication of the data in hand will be a comparative presentation between seventeen different studies of a similar nature.

Personnel: The study has been made during 1921-4 by J. Lossing Buck with the assistance of advanced students and associates, all of the Department of Agricultural Economics, Farm Management and Rural Sociology, College of Agriculture and Forestry, University of Nanking.

Collaboration: The work has been done entirely by the above mentioned department.

Time: Publication of the completed study can be effected about December 31, 1928, provided funds are available by about September 1, 1928.

Cost: The cost of printing two thousand copies in book form in China is carefully estimated on the basis of printer's quotations at $1800 Gold. It is suggested that the books be sold for $2.00 Gold (equivalent to $4.00 Chinese currency). A sum of $500.00 is needed in addition for statistical recalculation of certain tables, making a total of $2300 needed.

Publication: It is estimated that the publication will contain 125 tables, 100 charts and maps and 200 pages of text. Because of this large amount of material publication in book form is desired. Printing is to be done at some Press in Shanghai, publication is to be by the University of Nanking and distribution is to be through book-dealers in different countries. The exact title of the publication has not yet been decided upon.

CHINA LAND UTILIZATION-POPULATION PROJECT

DEPARTMENT OF AGRICULTURAL ECONOMICS

UNIVERSITY OF NANKING

Origin

The idea of a study of Land Utilization in China was first suggested at the Conference of the Institute of Pacific Relations held in Honolulu in 1926. A project was drawn up there which called for the study of China's Land Utilization in Washington, D.C. by one or two Chinese. Later, when Dr. J.B. Condliffe, Research Secretary, of the Institute visited China in the winter of 1928, he and L.T. Chen, Secretary of the China Council of the Institute (composed entirely of Chinese) visited the University of Nanking. These two men were very favofably impressed with the work of the Department of Agricultural Economics and asked the Department to submit a project on Land Utilization. This was done. It was passed by the China Council, of which D. K. Lieu is research secretary, later it was approved by the central organization at Honolulu; then it was submitted to the Social Research Council in America for its recommendation to the Rockfeller Foundation for funds. Approval was given but less than one half of the original request was granted. The project is being conducted under the Department of Agricultural Economics of the College of Agriculture, The University of Nanking.

I. Purpose

There is a threefold purpose in the project. One is to train Chinese in the methods of research in land utilization. Another is to make available knowledge of China's agriculture, for teaching purposes, for Chinese students, for improvement of the industry and for a basis of national agricultural policies. A third purpose is to make available to those interested in China's welfare certain elementary information about Land Utilization and Population in China. This will do much to raise China's prestige in the eyes of other peoples since reliable statistics for China are noticably lacking.

II. Scope

Data are to be collected by the sampling method from the major natural regions (15 to 20) of China, including the outlying provinces. It is planned to include approximately one-sixth of the hsiens of the country in the

samples taken. A minimum of 100 areas will be studied intensively with five or six such areas to each natural region.

III. Schedules

Schedules are divided into two general types, those pertaining to the hsien or locality as a unit, and those pertaining to the farm or farm family as a unit.

The hsien and locality schedules will be filled by the regional investigator who also has charge of the local investigators. The other schedules will be filled by the local investigators who are trained by the regional investigators. (Sample copies of schedules may be had upon request)

IV. Location of areas to be studied

Schedules will be filled by the method of sampling. Types of farming areas extending over an area at least equivalent to several hsiens are to be first determined.

Such types of farming areas are to be differentiated by the crops using 20 per cent, or more, of the farmer's labor. Preliminary approximate boundaries of such areas should be determined by obtaining estimates from three persons familiar with conditions in the hsien and in adjacent hsiens, of proportion of area in each crop.

For each type of farming areas, a representative village (or a group of small villages or hamlets) should be selected, and within which a minimum of 100 farms are to be studied in detail by use of the farm schedule. In addition, a minimum of another 250 farm families should be selected in the same or in neighboring villages for the population schedule. The farms and families are to be selected on the basis of taking all the families in a village, or in the case of a large village, by taking all families along typical streets or sections of the village.

Since investigators native to the locality studied are very important to the reliability of the data collected, the samples selected will be conditioned in part by the availability of such persons qualified to undertake the work.

V. Information to be collected

I. Areas used for different crops and for other purposes (including lands now waste.)
   1. Amount
   2. Proportion
   3. Trends and causes.

II. Utilization of crops and their by-products.

III. Kind, number and production of livestock and the utilization of their products.

IV. Yields and human factors affecting yields--

1. Yields per unit of land and trend.
2. Extent of irrigation and drainage (also possibilities and need.)
3. Frequency and causes of crop failures.
4. Amount and kind of fertilizers used.
5. Extent of tenancy, type of tenure, and the effect of tenancy upon farm practice.
6. Extent and purpose of credit needed.
7. Land values.
8. Farm practice
   (1) Planting and harvesting dates
   (2) Frequency of each operation for each crop.
   (3) Average amount of time per mow for each operation for each crop.
   (4) Type of implement and number of men and number and kind and size of animals for each operation

V. Geographical influences affecting type of farming and yields

1. Climate
2. Topography
3. Soils

VI. Marketing and transportation facilities affecting type of farming.

1. Kind and proportion of crops exported from the hsien.
2. Cost and methods of transportation.
3. Trend in exports.
4. Factors limiting the marketing of products.
5. Prices paid farmers.

VII. Kind and extent of subsidiary occupations and amount of idle time.

VIII. Farm layout --
1. Number and distance of plots
2. Number of fields
3. Topography of the farm
4. Unproductive farm areas

IX. Population -- A one year's record

Density

1. Size of farm family
2. Crop area per farm

Growth and composition

1. Age of each family member
2. Relationship of each family member to the head of family.
3. Date of marriage of each husband and wife
4. Births and deaths.

Mobility

1. Migration history of the family.

X. Standard of living indices --

(1) Kinds and amounts of foods eaten and trend in food consumption.
(2) Clothing
    1. Material
    2. Amount
(3) Housing and furniture
    1. Number of rooms
    2. Construction of house
    3. Kind, amount and quality of furniture
    4. Value
(4) Special expenditures

VI. Usefulness of the Results

1. The results will be published (in Chinese and in English) under the following chapter headings: method and scope of study, physical factors, local land classification, crops, livestock and fertility maintenance, size of farm business, farm labor, markets and transportation, taxation, prices, standards of living, and a concluding chapter interpreting the results in relation to the future development of China's agriculture.

2. Relationships between soils, topography, climate and the crops grown or that might be grown will be shown. This will make it possible to determine the relative position and possibilities of agriculture in each region.

3. Types of farming in China will be located, and reasons can be given for the types as they exist. This will enable one to determine the feasibility of introducing new crops or new cropping systems.

4. Types of farming in one area may be compared with those in another in respect to the resulting welfare of the farmers in each area. This is especially true of density of population and production in relation to the soil as a factor in production.

5. Trends in the kind of crops grown will indicate some relationship to new demands for agricultural products for food or other uses and will enable one to predict future requirements.

6. The information on yields of crops will determine the possibility of increasing the yields. This is especially true since yields are correlated with kind of soil, climate, fertilization, cultivation and irrigation or drainage.

7. The density of animal population and the amount of other fertilizers applied will help to show whether or not fertilizers are used in insufficient quantities.

8. The size of the farm business will indicate the possible standard of living. A study of the differences in size in relation to per capita production will show what is the most profitable size.

9. The information on population will make possible the computation of such rates as birth, death and marriage rates. Population growth thus can be computed and interpreted in relation to per capita production and the possible standard of living.

10. The knowledge gained will also help the world to a better understanding of a type of agriculture very different from that in the West.