

An Experiment in the Registration of Vital Statistics in China

PROFESSOR C. M. CHIAO
Department of Agricultural Economics
University of Nanking

WARREN S. THOMPSON
Scripps Foundation for Research
in Population Problems
Miami University

MR. D. T. CHEN
Department of Agricultural Economics
University of Nanking

**Scripps Foundation
Research in Population Problems**

Oxford, Ohio

1938

AN EXPERIMENT IN THE REGISTRATION OF VITAL STATISTICS IN CHINA

PROFESSOR C.M. CHIAO
Department of Agricultural Economics
University of Nanking

WARREN S. THOMPSON
Scripps Foundation for Research
in Population Problems
Miami University

MR. D.T. CHEN
Department of Agricultural Economics
University of Nanking

SCRIPPS FOUNDATION FOR RESEARCH IN POPULATION PROBLEMS
Oxford, Ohio
1938

CONTENTS

	Page
CHAPTER I. INTRODUCTION.	1
Method of Study—Choosing a Supervisor—Area Chosen for Study—Schedules—Field Organization—Field Checks.	
CHAPTER II. RESULTS OF THE CENSUS IN HSIAO CHI:	
THE CHINESE FAMILY AND ITS LAND.	12
Economic Status of the Families—Families Classified According to Ownership of Land—Size of Farm and Size of Family—Economic Status and Size of Farm—Size of Farm and Land Tenure.	
CHAPTER III. RESULTS OF THE CENSUS IN HSIAO CHI (Continued):	
THE COMPOSITION OF THE POPULATION.	21
Age Composition—Age Distribution in Farm Villages and in Market Towns—Type of Population—Sex Composition—Educational Composition—Marital Composition—Occupational Composition.	
CHAPTER IV. MARITAL CONDITION.	33
Marriage Rate—Age at Marriage.	
CHAPTER V. THE BIRTH RATE	40
Ratio of Male to Female Births—Crude Birth Rate—Fertility of Married Women—Differential Birth Rate.	
CHAPTER VI. THE DEATH RATE	49
Crude Death Rate—Specific Death Rate—Deaths by Age and Sex—Differential Death Rate—Infant Mortality.	
CHAPTER VII. MIGRATION.	59
Immigration—Emigration.	
CHAPTER VIII. THE RATE OF NATURAL INCREASE	70
APPENDIX I. THE OUTLOOK FOR THE IMPROVEMENT OF STANDARDS OF LIVING IN CHINA.	77
PART I. THE PROBABLE EFFECTS OF PROGRESS IN AGRICULTURE	77
Crop Yields in China Compared with Other Countries—How Yields Might be Increased—Utilization of Farm Land—Estimates of Arable Area—Suggestions for Improved Organization of Agricultural Life—Agricultural Improvements and their Probable Effect on the Welfare of the People—Probability of Solving Population Pressure by Migration—Conclusion.	
PART II. THE PROBABLE EFFECTS OF PROGRESS IN INDUSTRIALIZATION.	92
Factors Underlying Industrialization—Natural Resources—Ability to Raise Capital—Problem of Training Personnel—Markets for the Products of Chinese Industry—Planning the Industrial Development of China—Industrialization and Factors Inhibiting Improvement in Living Conditions.	
APPENDIX II. REGISTRATION SCHEDULES.	109
Registration Schedule of Birth—Registration Schedule of Death—Registration Schedule of Marriage—Registration Schedule of Migration—Census Schedules.	
APPENDIX III. REFERENCES.	114

LIST OF TABLES

Table	Page
1. Number and Percent Distribution by Size of Rural Families and Households in Hsiao Chi, Kiangyin, Kiangsu, China, March 1, 1932; and Percent Distribution by Size of Rural Families in China, 1929-31, and Rural-farm Families in the United States of America, 1930.....	5
2. Economic Status and Size of Family and Household in Hsiao Chi, Kiangyin, Kiangsu, China, March 1, 1932.....	13
3. Number and Percent Distribution of Families and Size of Families by Land Tenure, Hsiao Chi, Kiangyin, Kiangsu, China, March 1, 1932.....	15
4. Number and Percent Distribution of Families and Size of Families by Crop Area of Farms, Hsiao Chi, Kiangyin, Kiangsu, China, March 1, 1932.....	15
5. Size of Farm Classified by Economic Status of Family, Hsiao Chi, Kiangyin, Kiangsu, China, March 1, 1932.....	16
6. Number and Percent Distribution of Farm Families and of Shih-mow in Crops, and Crop Area per Family and per Capita, by Land Tenure, Hsiao Chi, Kiangyin, Kiangsu, China, March 1, 1932.....	17
7. Percent Distribution of Farms by Land Tenure, Provinces of China, 1934.....	18
8. Number and Percent Distribution by Farm Ownership, of Families by Economic Status, Hsiao Chi, Kiangyin, Kiangsu, China, March 1, 1932.....	19
9. Number and Percent Distribution by Economic Status of Families by Farm Ownership, Hsiao Chi, Kiangyin, Kiangsu, China, March 1, 1932.....	20
10. Number and Percent Distribution by Age, of Rural Population by Sex, Hsiao Chi, Kiangyin, Kiangsu, China, March 1, 1932.....	22
11. Percent Distribution by Age of the Population of Hsiao Chi Registration Area, China, Eleven European Countries, India, and the Total and Rural-farm Population of the United States.....	23
12. Number and Percent Distribution by Age of the Farm Village Population by Sex, Hsiao Chi, Kiangyin, Kiangsu, China, March 1, 1932.....	24
13. Number and Percent Distribution by Age of Market Town Population by Sex, Hsiao Chi, Kiangyin, Kiangsu, China, March 1, 1932.....	25
14. The Farm Population by Broad Age Groups in Hsiao Chi Registration Area Compared with the Rural Population of China; the Total Population of Sweden; the Probable Normal Age Distribution of the People in Eleven European Countries; the Rural-farm Population of the United States; and Sundberg's Progressive, Stationary, and Regressive Types of Population.....	26
15. Distribution by Age Groups of Each 1,000 Persons in Hsiao Chi, 1932, and Selected Countries, about 1931.....	27
16. Percent Distribution by 10-year Age Groups of the Market Town and Farm Village Population of Hsiao Chi, Kiangyin, Kiangsu, China, March 1, 1932.....	27

Table	Page
17. Males and Females by Age in Hsiao Chi, 1932; and Ratio of Males to 100 Females by Age, Hsiao Chi, 1932, China, 1929-31, and the United States, 1930.....	28
18. Sex Composition of the Market Town and Farm Village Population in Hsiao Chi, Kiangyin, Kiangsu, China, March 1, 1932.....	29
19. Number and Percent Distribution by Literacy of Persons 15 Years of Age and Over, Hsiao Chi, Kiangyin, Kiangsu, China, March 1, 1932.....	30
20. Number and Percent Distribution by Marital Condition of Persons 15 Years of Age and Over, by Sex, Hsiao Chi, Kiangyin, Kiangsu, China, March 1, 1932.....	31
21. Number and Percent Distribution by Occupation, of the Population by Sex, Hsiao Chi, Kiangyin, Kiangsu, China, March 1, 1932.....	32
22. Marriages and Marriage Rate by Months, Hsiao Chi, Kiangyin, Kiangsu, China, September, 1931-August, 1935.....	34
23. Average and Modal Age at First Marriage, Each Sex, Hsiao Chi, Kiangyin, Kiangsu, China, September, 1931-August, 1935.....	36
24. Mean Age at Marriage of Women in Kiangyin and Selected Countries.	36
25. Frequency Distribution of Age at First Marriage, Each Sex, Hsiao Chi, Kiangyin, Kiangsu, China, September, 1931-August, 1935.....	37
26. Age Difference Between Husbands and Wives at First Marriage, Hsiao Chi, Kiangyin, Kiangsu, China, September, 1931-August, 1935...	38
27. Number of Marriages and Average Age at First Marriage of Persons Married from 1887 to 1931, Hsiao Chi, Kiangyin, Kiangsu, China,.....	39
28. Male and Female Births and Sex Ratio at Birth, Hsiao Chi, Kiangyin, Kiangsu, China, September, 1931-August, 1935.....	41
29. Births and Crude Birth Rates by Months, and Ratio of Monthly to Annual Birth Rates, Hsiao Chi, Kiangyin, Kiangsu, China, September, 1931-August, 1935.....	41
30. Indexes of the Value of Farm Land in China, 1931-1934, when 1931 = 100.....	42
31. Indexes of Prices Received by Farmers for Farm Products, of Prices Paid for Commodities Purchased, of Farm Wages, of Farm Taxes, and of Farm Land Values, when 1926 = 100.....	43
32. Total Women, Married Women, and Percent of Women Married, by Five-year Age Groups, 15-49, March 1, 1932-35; Births by Age of Mother and Specific Birth Rates, September, 1931-August, 1935, Hsiao Chi, Kiangyin, Kiangsu, China.....	45
33. Births and Crude Birth Rates by Economic Status in Hsiao Chi, Kiangyin, Kiangsu, China, September, 1931-August, 1935.....	47
34. Total and Married Women 15-44 Years of Age and Percent of Women 15-44 Married, March 1, 1932-1935; Births to Women under 45 and Birth Rates for Total and Married Women 15-44, by Economic Status, September, 1931-August, 1935, Hsiao Chi, Kiangyin, Kiangsu, China..	48
35. Births and Crude Birth Rates of Farm Families by Land Tenure, Hsiao Chi, Kiangyin, Kiangsu, China, September, 1931-August, 1935..	48
36. Deaths and Crude Death Rates by Months and Ratio of Monthly to Annual Death Rate, Hsiao Chi, Kiangyin, Kiangsu, China, September, 1931-August, 1935.....	49
37. Deaths and Death Rates by Age and Sex, Hsiao Chi, Kiangyin, Kiangsu, China, September, 1931-August, 1935.....	53

Table	Page
38. Death Rates per 1,000 Living at Each Age Period for Kiangyin, England and Wales, and the United States of America.....	54
39. Number and Percent Distribution of Deaths by Age Groups, Hsiao Chi, Kiangyin, Kiangsu, China, September, 1931-August, 1935.	55
40. Deaths and Crude Death Rate Classified by Economic Status, Hsiao Chi, Kiangyin, Kiangsu, China, September, 1931-August, 1935.....	55
41. Deaths and Crude Death Rate of Farm Families, Classified by Land Tenure, Hsiao Chi, Kiangyin, Kiangsu, China, September, 1931-August, 1935.....	56
42. Births, Infant Deaths, and Infant Mortality by Sex, Hsiao Chi, Kiangyin, Kiangsu, China, September, 1931-August, 1935.....	57
43. Infant Deaths and Infant Mortality Rates, Classified by Economic Status, Hsiao Chi, Kiangyin, Kiangsu, China, September, 1931-August, 1935.....	57
44. Infant Deaths and Infant Mortality Rates, Classified by Land Tenure of Farm Families, Hsiao Chi, Kiangyin, Kiangsu, China, September, 1931-August, 1935.....	58
45. Number and Percent Distribution by Age of Immigrants by Sex, Hsiao Chi, Kiangyin, Kiangsu, China, September, 1931-August, 1935.	60
46. Percent Distribution by Sex of Immigrants by Age in Hsiao Chi, Kiangyin, Kiangsu, China, September, 1931-August, 1935.....	61
47. Number and Percent Distribution by Place of Migration of Immigrants, by Sex, Hsiao Chi, Kiangyin, Kiangsu, China, September, 1931-August, 1935.....	62
48. Number and Percent Distribution of Immigrants by Occupation after Migration, Hsiao Chi, Kiangyin, Kiangsu, China, September, 1931-August, 1935.....	63
49. Number and Percent Distribution by Age of Emigrants by Sex, Hsiao Chi, Kiangyin, Kiangsu, China, September, 1931-August, 1935.	65
50. Percent Distribution by Sex of Emigrants by Age in Hsiao Chi, Kiangyin, Kiangsu, China, September, 1931-August, 1935.....	66
51. Number and Percent Distribution by Place of Migration, of Emigrants by Sex, Hsiao Chi, Kiangyin, Kiangsu, China, September, 1931-August, 1935.....	66
52. Number and Percent Distribution of Emigrants by Occupation after Migration, Hsiao Chi, Kiangyin, Kiangsu, China, September, 1931-August, 1935.....	67
53. Percent Distribution by Immigrant and Emigrant, of Migrants by Sex and Five-year Age Periods, Hsiao Chi, Kiangyin, Kiangsu, China, September, 1931-August, 1935.....	68
54. Births and Deaths by Sex, Crude Birth and Death Rates, and Natural Increase in Hsiao Chi, Kiangyin, Kiangsu, China, September, 1931-August, 1935.....	70
55. Cultivated Land in China and Various Countries.....	73

APPENDIX II.

Table I. Registration Schedule of Birth Series-----

Prepared by the Department of Agricultural Economics,
University of Nanking.

- (1) Village number _____ (2) Name of village _____
- (3) Family number _____ (4) Name of the head of family _____
- (5) Crop area _____ (6) Land tenure _____
- (7) Reporter _____ (8) Date of registration _____

B I R T H											
Date	Sex	Place of birth	Rela- tion of moth- er to head of fam- ily	Where moth- er works	Hel- per in child birth	Age of moth- er	Occu- pa- tion of fa- ther	Place where fa- ther works	Econo- mic status of family	Type of birth	Twining
1	2	3	4	5	6	7	8	9	10	11	12
	Male				(1) Nobody (2) Family (3) Neighbor (4) Midwife (5) Doctor					(1) Live (1) Still (2) Miscar- do (3) Abor- tion (5) Infanti- cide	(1) Single (2) Twins

(Continued)

B I R T H						
Order of birth	Birth day of last child	Total children Living Male Fe- male	given by mother Dead Male Fe- male	Remarks		
13	14	15	16	17	18	19

Table II. Registration Schedule of Death

Series-----

Prepared by the Department of Agricultural Economics,
University of Nanking.

- (1) Village number _____ (2) Name of village _____
 (3) Family number _____ (4) Name of the head of family _____
 (5) Crop area _____ (6) Land tenure _____
 (7) Reporter _____ (8) Date of registration _____

D E A T H												
Name of the deceased	Relation of the deceased to the head of family	Date of death	Age	Sex	Place of death	Cause of death	Marital status	Occupation	Place where the deceased worked	Occupation of the head of family	Economic status of the family	Remarks
1	2	3	4	5	6	7	8	9	10	11	12	13
				Male			Married				Poor	
				Female			Single				Well-to-do	
							Widowed				Rich	
							Divorced					

Table III. Registration Schedule of Marriage Series-----

Prepared by the Department of Agricultural Economics,
University of Nanking.

- | | |
|--------------------------|--------------------------------------|
| (1) Village number _____ | (2) Name of village _____ |
| (3) Family number _____ | (4) Name of the head of family _____ |
| (5) Crop area _____ | (6) Land tenure _____ |
| (7) Reporter _____ | (8) Date of registration _____ |

Bridegroom					Bride							
Name	Place	Age	Number	Occu-	Name	Place	Age	Number	Occu-	Econo-	Date	Place
	'where	'	' of	'pa-	'	'where	'	' of	'pa-	'mic	' of	' of
	'groom	'	' mar-	'tion	'	'bride	'	' mar-	'tion	'status	'mar-	'mar-
	'works	'	'riage	'	'	'lived	'	'riage	'	' of	'riage	'riage
	'	'	'	'	'	'before	'	'	'	'brides	'	'
	'	'	'	'	'	'mar-	'	'	'	'family	'	'
	'	'	'	'	'	'riage	'	'	'	'	'	'
	'	'	'	'	'	'	'	'	'	'	'	'
	'	'	'	'	'	'	'	'	'	'	'	'
	'	'	'	'	'	'	'	'	'	'	'	'
	'	'	'	'	'	'	'	'	'	'	'	'
	'	'	'	'	'	'	'	'	'	'	'	'
	'	'	'	'	'	'	'	'	'	'	'	'
1	2	3	4	5	6	7	8	9	10	11	12	13
'	'	'	'	'	'	'	'	'	'	'	'	'
'	'	'	'	'	'	'	'	'	'	'	'	'
'	'	'	'	'	'	'	'	'	'	'	'	'

Table IV. Registration Schedule of Migration

Prepared by the Department of Agricultural Economics,
University of Nanking.

- (1) Village number _____ (2) Name of village _____
 (3) Family number _____ (4) Name of the head of family _____
 (5) Crop area _____ (6) Land tenure _____
 (7) Reporter _____ (8) Date of registration _____

Name	Relation 'to the 'head of 'family	Sex	Age	Occupation	From 'what 'place	Date of 'emi- 'gration	Place 'migrant 'went	Date of 'immi- 'gration	Cause of 'migration
1	2	3	4	5	6	7	8	9	10

Table V. Census Schedules

Prepared by the Department of Agricultural Economics,
University of Nanking.

- | | |
|--------------------------------------|-------------------------------------|
| (1) Village number _____ | (2) Family number _____ |
| (3) Name of village _____ | (4) Economic status of family _____ |
| (5) Crop area _____ | (6) Land tenure _____ |
| (7) Name of the head of family _____ | (8) Investigator _____ |

A. Total Number of People Living in the Family in March 1, 1932.

Family head and his or her family members	Age	Marital status	Education			Occupation		
	Age at	Married,	Number of schooling					
		single,	Tutor	Public	Illiterate			
		widowed,	school	school				
	divorced,	riage						
	1	2	3	4	5	6	7	8
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								

B. Total Number of Absent Relatives in March 1, 1932.

Family head and his or her family members	Age	Marital status	Occupation	Residence	Cause of emigration	
	Age at	Married,				
		single,				first
		widowed,				mar-
	divorced,	riage				
	1	2	3	4	5	
1						
2						
3						
4						
5						
6						

APPENDIX III. REFERENCES

1. Australian Commonwealth Bureau of Census and Statistics: Official Year Book of the Commonwealth of Australia, No. 26 (1933). Canberra, Commonwealth Government Printer.
2.: Official Year Book of the Commonwealth of Australia, No. 27 (1934). Canberra, Commonwealth Government Printer.
3.: Official Year Book of the Commonwealth of Australia, No. 28 (1935). Canberra, Commonwealth Government Printer.
4.: Official Year Book of the Commonwealth of Australia, No. 29 (1936). Canberra, Commonwealth Government Printer.
5. George A. Bartlett: Men, Women, and Conflict. New York, G.P. Putnam's Sons, 1931
6. E. deS. Brunner and J.H. Kolb: Rural Social Trends. New York, McGraw-Hill Book Company, 1933.
7. J.L. Buck: Chinese Farm Economy. Chicago, University of Chicago Press, 1930.
8. C.C. Chang: An Estimate of China's Farms and Crops. Nanking, 1931.
9. Chang-heng Chen: "A Comparative Study of China's Land and Population Problems with Some Proposals for Her Economic Reconstruction." Journal of the Geographical Society of China, Vol. 2, No. 4 (December, 1935). (in Chinese)
10. W.H.Y. Chen: "Differential Fertility According to Social Classes." Proceedings of the 20th Session of International Statistical Institute, 1931. Shanghai, 1931.
11. C.M. Chiao: "A Study of the Chinese Population." The Milbank Memorial Fund Quarterly, Vol. 11, No. 4 (October, 1933), pp. 325-341; Vol. 12, No. 1 (January, 1934), pp. 85-96; Vol. 12, No. 2 (April, 1934), pp. 171-183; Vol. 12, No. 3 (July, 1934), pp. 270-282.
12. China Ministry of Industries, the Committee for the Study of Silver Values and Commodity Prices: Silver and Prices in China. The Commercial Press, 1935.
13., the National Agricultural Research Bureau: "Original Indexes." Crop Reports.
14.: Crop Reports, Vol. 3 (April 15, 1935).
15. G.B. Cressey: China's Geographic Foundations. London and New York, McGraw-Hill Book Company, 1934.
16. Charles Elton: "Animal Population and Migration." International Union for the Scientific Investigation of Population Problems, 2nd General Assembly, London, 1931. Problems of Population, Edited by G.H.L.F. Pitt-Rivers. London, George Allen and Unwin, 1932, pp. 227-229.
17. "The End of This Year's Cholera Outbreak." The China Critic, Vol. 5, No. 40 (October 6, 1932).
18. J.B. Griffing: "The Size of Family in China." Sociology and Social Research, Vol. 13, No. 1 (September-October, 1928).

19. India, Census Commissioner: Census of India, 1921, Vol. 1, Part 2, Calcutta, Superintendent Government Printing, 1923.
20. H.D. Lamson: "A Study of the Relation of Education to Family Size." The China Critic (August 21, 1930), pp. 799-882.
21. League of Nations: Statistical Year Book, 1933/34. Geneva, 1934.
22. : Statistical Year Book, 1935/36. Geneva, 1936.
23. D.K. Lieu and Chung-min Chen: "Statistics of Farm Land In China." Chinese Economic Journal, Vol. 2, No. 3 (March, 1928), pp.181-213.
24. W.C. Lowermilk: "Some Practical Possibilities in Forestry for China." Journal of the Association of Chinese and American Engineers, Vol. 6, No. 4 (1925), p. 1.
25. Shiroshi Nasu: Land Utilization in Japan. Tokyo, Institute of Pacific Relations, 1929.
26. Sir Arthur Newsholme: The Elements of Vital Statistics (New Edition). London, George Allen and Unwin, 1923.
27. Frank W. Notestein: "Differential Age at Marriage According to Social Class." The American Journal of Sociology (July, 1931), pp. 22-48.
28. E.B. Reuter: Population Problems. Philadelphia, J.B. Lippincott Company, 1923.
29. J.B. Taylor: Farm and Factory in China. London, Student Christian Movement, 1928.
30. Warren S. Thompson: Danger Spots in World Population. New York, Alfred A. Knopf, 1929.
31. : Population Problems (Second Edition). New York, McGraw-Hill Book Company, 1935.
32. James Thorp: "Colonization Possibilities of Northwest China and Inner Mongolia." Pacific Affairs, Vol. 7, No. 4 (December, 1935)
33. United States Bureau of the Census: Fifteenth Census of the United States, 1930, Population. Washington, Government Printing Office, 1933. (Six volumes).
34. G.C. Whipple: Vital Statistics (Second Edition). New York, John Wiley and Sons, 1923.