Progress in Rural-Urban Migration Research?

—Some comments on migration analysis and a Proposal for an outmigration study in Taiwan*

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"In the three-quarters of a century which have passed, Ravenstein has been much quoted and occasionally challenged. But, while there have been literally thousands of migration studies in the meantime, few additional generalizations have been advanced......"1)"

This statement, made more than six years ago by Everett S. Lee, still seems to me an apt description of the situation of migration research today. We now have a much larger and constantly increasing amount of data, lots of articles on specific studies in this problem area, and more sophisticated methods for data analysis and interpretation.

Yet, despite the mass of data, we do not know much more than six years ago as far as the accumulation of confirmed hypotheses and the resolution of theoretical issues are concerned. Many instances could be cited to support this view: Peterson's article in the International Encyclopedia of the Social Sciences, Kuhnen's summary in: "Vorlesungsskript zur Agrarsoziologie im WS 1970/71" or Mangalam and Schwarzweller's imaginative analysis in "Some Theoretical Guidelines Toward a Sociology of Migration"2).

* * A paper presented at The Institute of Foreign Agriculture, University of Göttingen, Germany, January, 1973.
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In the first part of this paper, the main objections to the established mode of migration research will be raised, although there is no way to denigrate the contributions from many outstanding scholars in this field. In the second part of the paper, a proposal for an outmigration study in Taiwan will be presented.

I. Some remarks concerning these established modes

1. Who is a migrant? According to leading students of migration research, there are three elements which constitute this concept:

1) a physical movement of people
2) more or less permanent change of residence
3) change of social interaction.

But what is the criterion for the change of space, time and social interaction? Especially from the sociological point of view, it is not easy to find an operational definition of migration. For example, it is conceivable that two persons make the same physical movement and yet have the event classified differently because one has enough means to maintain full interaction with his original society via modern means of communications, but the other does not.

2. A review of the various approaches for making rural-urban distinctions indicates that the variety is very wide and that there is little agreement among them. The many approaches fall into two categories: single criteria approaches, which are usually based on the number of inhabitants in each community, and multiple criteria approaches, such as those of Redfield or Sorokin and Zimmerman.3)

But both single criteria approaches and multiple criteria approaches fail to meet the crosscultural validity requirement or, conceptually, are not abstract enough to permit generalization, and both do not take into account that rural and urban communities are subsystems within a large community such as nation-state systems.

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3. There is a need for a general theory as an aid in migration research. The existing model building can explain some of the migration phenomena. For example, in gravity models with respect to area of destination and its relationships to area of origin of the migrants, the two dominant themes are opportunities and distance. But these models are incapable of explaining variations in the volume of migration from year to year or from country to country. Nor do they provide much insight into the questions of why people move and how far they do adjust. Lack of disciplinary orientations of the scholars may be the main reason for the absence of a general theory of migration.

4. In the study of migration, individual family variables are used to explain this complex phenomenon, but community variables have been neglected. In our opinion, the major reasons for the lack of community variables as independent variables should be attributed to two causes: one is the emphasis on the individual in the study of migration. Many of the psychological, socio-psychological, and labor-economical studies of migration use such variables as individual attitudes, motives, aspirations, wage, unemployment. This is a misconception of migration as only an individual behavior, different from the complex behavior of the migrants in the interactional sense. Another is that traditional migration studies have depended heavily on official statistics such as government household census, but they cannot and do not touch upon the processes involved in migration. The empirical surveys from rural areas to find out the original factors for migration research are necessary in the future, since there are only, especially in rural areas, limited empirical surveys about migration research.

5. There are few surveys which treat aspirations as dependent variables in migration studies. This dynamic phenomenon has been greatly emphasized by J. O. Müller\(^4\)). Migration norms and values have played a great part in the interpretation of migration beha-

behavior, but they were insufficiently investigated as an integral part of migration studies. A common belief about the nature of aspiration is contained in the phrase, "the problem is in the people".

6. Return migration, emphasized by Kuhnen and Müller, is one of the most interesting phenomena in migration research. But, studies on this subject are few; for example, there is no knowledge about this phenomenon in Taiwan. A quotation from Kuhnen in "Agriculture and Beginning Industrialization: Pakistan" says the following:

"A not negligible percentage of the migrants who had abandoned agriculture return to their former occupations sooner or later. How high is the number of remigrants? Which sociological characteristics can be recognized in this group? Why do they return? What impact does the fluctuation have on the factories? Do economic or psychological difficulties arise in connection with resettlement in the village?"

7. The results concerning the consequences of migration are not satisfactory. The reason is a lack of operational definition for measurement; such as unemployment⁵), social mobility⁶), and adjustment.

8. The generally accepted theory of the relationship between economic growth and occupational structure assumes that there is a causal relationship between the process of growth and the occup-

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⁵) About the difficulties in measuring unemployment in developing countries see:

⁶) Social mobility has been understood as vertical mobility and in most cases was operationalized in terms of movements between broad occupational groupings. But how to make out the meaningful categories from thousands of different occupations? Transferring the nominal scale to ordinal scale is always a challenge to field researchers.
ational shift from agriculture to nonagriculture. This relationship exists through the low income-elasticity of demand for food and the rate of technical progress in agriculture like the developed countries experienced. But, in developing countries, the situation is different. Income-elasticity of demand for food is relatively high), modernization of agriculture, especially the degree of technologically dynamic agriculture—phase III—which, according to Mellor, is only on a small scale, and rural-urban migration does not show the economic growth, but only the transfer of rural disguised unemployment to urban open unemployment. The case of Taiwan's economic growth progress also denies the above relationship. Taiwan recently had a 10.5% average rate of economic growth, but outmigration amounted to less than 1.5% of the agricultural population in 1960.

9. A comment on the Western model for rural-urban migration policies was made by Gideon Sjoberg. He said that "overall, a major weakness of the Western model is its attempt to achieve economic growth by concentrating first on rural development and then on industrial-urban expansion. Land and tax reforms and stress on education are not sufficient to topple the walls of tradition or to hurdle the barriers to "progress" created by a rapidly expanding population. An ideology favoring the rural sector not only does little to demolish the traditional power structure but runs counter to the establishment of a viable democratic political system which, after all, has been alien to agrarian-dominated societies".

7) F. Kuhnen, Vorlesungsskript für ökonomischen Aspekte der Agrarentwicklung im WS 1972/73, Institut für Ausländische Landwirtschaft, Göttingen, pp. 11-12.
II. A Proposal for an Outmigration Study in Taiwan

1. Statement of the problem.

Our aim is to identify the rural-urban migration problems in Taiwan. Our problem orientation focuses more on the employment approach than on the GNP approach. This means that governments are not directly concerned with the rate of movement and do not aim at encouraging people to leave agriculture. Also, there are no questions about the optimal rate of rural migration in the process of national development. The objectives of policy should improve the conditions of movement by reducing the compulsion of out-migration and improving the possibilities of choice for those who are least able to improve their position. In order to understand the depth and tendencies of rural-urban migration problems in Taiwan as the starting point of this study, some reviews from outstanding scholars will be made.

"... die Reform in Taiwan bewirkte einen Transfer von der Landwirtschaft zum Aufbau der Industrie. Es wird geschätzt, dass ca. 40% der Entschädigungssumme zu industriellen und kommerziellen Investitionen genutzt wurden."9)

"... rural unemployment is estimated at about 19 per cent of the total (potential) labor units and 24 per cent of the available labor supply in the early 1960s in Taiwan. The problem of transferring surplus labor to urban industrial areas has deserved and received growing attention. In the context of such discussions, it is generally assumed there is no difference of labor capacity between the agricultural and non-agricultural sectors... According to the data for 1951-61 in Taiwan, the net per capita income of labor in the agricultural sector has been about one third of industrial sector and half of the commercial sector and others10)."


"An attempt at a direct estimate of the number of outmigrants has been made by comparing the projected rural population based on its growth rate with actual. The rate of natural increase is obtained by taking the difference between crude birth and death rates. For the period 1950-59 the cumulative net outmigrants are about 690,000 persons or 69,000 a year on the average. Expressing the annual figure as a percentage of the agricultural population, outmigration amounted to less than 1.5 per cent of the 1960 agricultural population"\(^{11}\).

"A growing portion of the labor force enrolled in various schools certainly provided an outlet for the pressures on employment, at least in the short run, without which the unemployment rate unquestionably would have higher. A strong family tie along the traditional line are required to accomodate the unemployed without causing social unrest. The process of capital—deepening in nonagriculture became quite notable beginning in 1958 in overpopulated, under-developed countries. The ultimate outcome of development efforts may depend not so much on the race between growth in industrial employment and growth in population, as on the rate between the rate of technical change in agriculture and the rate of population growth"\(^{12}\).

"Up to the end of 1968, the natural growth rate has lowered to 2.4%. Employment in 1968 was roughly estimated at about 4,500,000 persons. Compared with 1964 figure, the average annual increase in employment during the four-year period was about 100,000 persons. This was far short of the target of 150,000 per year set in the plan. Of the newly employed, the percentage taken up by agriculture was on


\(^{12}\) Yhi-Min Ho, "Development with Surplus Populaton—the Case of Taiwan". *Economic Development and Cultural Change*, Vol. 20, 1971, pp. 223-234
the decline, while that by industry and service was on the rise yearly\textsuperscript{13}).

Generally speaking, with the rapid population growth in Taiwan, the pressure for employment is likely to be present in every segment of the economy. In such a land-scarce and labor-abundant economy, reducing rural unemployment will continue to be a struggle. Insufficient substantial outmigration to the industrial sector and reduction of the birth-rate make the problem of rural unemployment a constant challenge.

2. Objectives

The aims of this study have been planned:

1) Our primary data source will be the Taipei migration survey—a set of intensive interviews with a limited sample. We would prefer to include the whole of Taiwan, but this not feasible with the funds and facilities available for this research. Instead, we shall try to design the study in such a way that the findings could be generalized to a broader universe than the one from which we draw our sample. We shall include other data, mainly the \textit{Monthly Bulletin of Population Registration Statistics of Taiwan}, of a more general nature which will enable us to relate our survey to the patterns of migration all over Taiwan. This analysis of secondary data will include:

a) A brief history of population, economy and urbanization
b) A pattern of internal migration
c) The estimate of farm population.

2) A basic inquiry designed to obtain general data concerning individual, family and community backgrounds of farm households, especially emphasizing the employment structure and agr-

3) Identification of factors which are relevant to characteristics of migrants.
4) Obtaining job information and socio-economic success information of migrants.
5) Why people on farms do not migrate.
6) Attitudes of non-migrants toward agriculture and rural life. 15). 7) Identification of factors which are relevant to characteristics of migration aspirations of non-migrants.
8) Characteristics and migration process of return migrants.
9) Taiwan is one of the few developing nations to have experienced rapid economic growth. Some recommendations resulting from this study may possibly provide some clues for all those who face or will soon face the same problem.

The objectives 3 and 7 are studies about test hypotheses; the others are of exploratory nature and may also be regarded as background data for the former.

3. The theoretical framework

As far as we know, there are only two papers in English, which were published in Journals of Rural Sociology (1971) and International Migration Review (1972). The author, A. M. Conning, considered the relationship between community types and migration rate.

The theoretical framework here is from the work done on comm-


unity differentiation by F.W. Young. The very classification of rural-urban migration as a type suggests that the placing of communities on a rural-urban continuum is a key concept. Using the concept of community differentiation, rural and urban communities are defined as follows: Rural communities are those with low levels of community differentiation within a national system, and urban communities are those with high levels of community differentiation within the same national system. Community differentiation may be defined as the degree to which a given community is coupled to the national system by institutions such as those involving the educational, economic, and religious subsystems of the nation. Guttman scale of community differentiation using the presence or absence of community items such as a farmer's association, primary school or bank have been found to order sets of communities in a nation.

While the national system may be said to include all subsystems of the nation, in highly centralized national systems such as that of Taiwan, the center from which most national level infor-


mation originates, and through which most communications flow, is the capital—Taipei, and some of the larger cities. These larger cities interpenetrate the national system; their coupling to the national system is complete or nearly complete.

An individual living in a rural community with high differentiation, who is well located in his community to receive incoming information from other parts of the society will tend to be exposed to more information than a similarly located person in a community with lower differentiation. In other words, the former person will have more information than the latter on the opportunities and life styles available in other communities. Since the difference between the rural communities in actual opportunities available in them is not likely to be as great as the difference between them in the level of incoming information, the "opportunity discrepancy" between what is perceived as available elsewhere and what is seen as available in the local community should be greater for the person in the community with high differentiation.

4. Hypotheses

Corresponding null hypotheses are posed about influences of community variables on migration rates.

First, there is no difference in outmigration amount between the various levels of community differentiation:

\[ M_a = M_b = M_c = \ldots \ldots = M_k \]

where \( M \) = outmigration amount
\( a, b, c \) indicate various levels of community differentiation

\( H_{11} \): The rate of outmigration is directly related to the level of community differentiation

\[ \text{Outmigration rate} = \frac{\text{Rural-urban migrants}}{\text{Survey cohort}} \times 100\% \]

\( H_{12} \): The ratio of outmigration is directly related to the level of community differentiation

\[ \text{Outmigration ratio} = \frac{\text{rural-urban migrants}}{\text{rural-urban migrants + rural-rural migrants}} \]

Secondly, there is no difference in amount of outmigration aspir-
ation between various levels of community differentiation:
i.e. \( MA_a = MA_b = MA_c \cdots = MA_k \)
where \( MA = \) outmigration aspiration
\( a, b, c \) indicate various levels of community differentiation.

\( H_{a1} \): The rate of outmigration aspiration is directly related to the level of community differentiation
\( H_{a2} \): The ratio of outmigration aspiration is directly related to the level of community differentiation.

5. Methodology

The validity (one measures what he claims to measure) and reliability (repeated measures will produce the same results) of social data depend on many factors. The following are among the most important that must be considered:
- the design of interview schedules
- research instruments
- method of analysis
- the representativeness of the sample.

1) The design of interview schedules

The design of interview schedules must be guided by the research objectives. Taking as basis the six objectives of this survey, four kinds of schedules will be proposed.

Schedule I (Background Schedule): general background data about farm households, both from migration 17) and non-

17) Rural-urban migrants should include persons who satisfy all of the following three criteria:
a) they should belong to the cohort;
b) they should be people who move to urban area (20,000 inhabitants or more in the 1972 census) beyond normal commuting distance over 6 months after having taken the decision on the basis of push-pull factors which bring about changes in the migrants and societies related;
c) the reason for migration should be a voluntary, instrumental movement operationally defined as one that was made for employment, the person not being accompanied by a parent.
migration households, will be collected. The respondents of both samples will preferably be family heads.

Schedule II (Migration History Schedule): migration history data, only from migration households, will be collected. The respondents will preferably be family heads. The same schedule will be used if there are more than one migrant.

Schedule III (Migration Aspiration Schedule): data about factors affecting non-migrants who wish to migrate or not. There are two levels: attitudinal and behavioral. For example: Attitudinal: If you had the choice, where would you like to live, here or elsewhere? Behavioral: Have you ever tried to move? Do you think it might be possible? The respondents will be the persons in the survey cohort 18) themselves. If there are more than one person in the survey cohort, random selection will be made.

Schedule IV (Return Migration Schedule): data about return migrants in the survey cohort in case there are such return migrants in migration as well as non-migration households. The respondents will be the return migrants themselves. If there are more than one migrant, the same schedule will be used.

18) Survey cohort should include persons who satisfy all of the following three criteria:
   a) they should be born between 31st of June 1938 and 1st of July 1958, i.e. be in the 15*-35 age group;
   b) they should have lived at least until the age of 15;
   c) they should have lived in a survey community during part or the whole of the migration interval, i.e. five years (1st of February 1968-31st January 1973)

* The reason for choosing that age-group is that in Taiwan the period of free education has been extended from six to nine years since 1968.
2) Research Instrument

Two or three research instruments will be used in this study, i.e. Taiwan Rural Socio-economic Status Scale, Taiwan Rural Community Differentiation Scale and, if possible, Taiwan Farm Family Differentiation Scale as well.

3) Method of Analysis

Analysis of variance will be used when level of community differentiation is designed as an independent variable in the study.

4) The representativeness of the sample

The actual object of interest of the present proposal is the entire farm households of rural community with a population below 20,000 in the Taipei region and not just the people who are interviewed. The sample is designed to yield-optimal results; this will be achieved in so far as one is able, at the same time, to minimize the cost and to maximize the information per unit of observation. It is of some importance to discuss briefly the following four major topics relating to the representativeness of the sample with respect to the parameter of interest

- rural-urban distribution of population in Taiwan
- the definition and scope of the universe inferred from the samples under study
- the definition of farm households
- "Mindestgrosse des Samples".

a) Rural-urban distribution of population in Taiwan

Besides five large cities, there are sixteen counties in Taiwan. The counties are divided into a total of 7 small cities, 78 urban townships, 204 rural townships and 30 townships inhabited by aborigines. Any subdivision of a county with a population of over 100,000 is classified as a small city. Both the urban and rural townships are actually of mixed urban-rural character, consisting

of an urban center surrounded by rural area. Townships are classified as urban or rural, depending on the size of the urban center. The mountainous townships which are inhabited mainly by aborigines are separately identified. Rural townships here are treated relatively as rural communities.

b) The definition and scope of the universe inferred from the samples under study

All farm households in rural townships with a population of less than 20,000, are located in two counties surrounding Taipei city, i.e., Taipei county and Taichun county. In Taiwan, one county consists of about 10 rural townships with a population of less than 20,000. One township is made up of about 20 villages and a village has, generally, about 100 farm households. So the scope of the universe is about 40,000 farm households (100 farm households × 20 × 10 × 2 = 40,000 farm households).

c) The definition of farm households

"The persons living together and having a kitchen in common being considered a household" 20) is the definition given by F. Kuhnen for a farm household.

In Taiwan, farm households are defined as comprising those engaged in farming and who 21) fulfil one of the following conditions

i) Cultivating a farm land of 0.02 chia (equivalent to 0.0194 hectare) or above

ii) Raising three or more hogs

iii) Raising one or more cattle (excluding those solely for drafting ox-carts)

iv) Raising one hundred or more fowls

20) F. Kuhnen, *Agriculture and Beginning Industrialization: Pakistan*, op. cit., p. 28

v) Having an annual sale of farm products at NT$4,000 or more.

d) "Mindestgrösse des Samples" 22)

What is the relationship between the sample and the parameter? Statistically, this question should be rephrased: how many of all possible sample values must be included on both sides of the actual sample value to define the range (area under the normal curve) which, with a specific probability, will contain the population value. In order to define precisely the width of the interval around the sample value, it is necessary to know the size of the sampling error. Quite clearly, the smaller the sampling error is, the narrower the interval will be within which the population value falls with a certain probability. More precisely, the interval defined in terms of one unit of sampling error (1 standard error) which will contain the true population value is roughly 68 out of 100 cases. Or to put it the other way, one may assert with 68, 95, or 99.7% confidence that the true population value lies within the interval equal to the same value plus and minus 1, 2, or 3 standard errors. What are the factors that determine the size of the sampling error? This may be expressed as follows:

\[ SE = \sqrt{\text{deff.} \cdot \frac{p(1-p)}{N}} \]

where:

- deff. = sample design effect
- p = proportion with the migration family
- 1-p = proportion with non-migration family


\( N = \) size of observation upon which \( p \) and \( 1-p \) are based, i.e. 40,000 farm households

The design effect is defined as the ratio of the variance of a cluster sample to the variance of a simple random sample. If a simple random sample is taken, the design effect will be equal to 1.0 and cancel out, and the sampling error may be expressed as follows:

\[
SE (or \sigma_p) = \sqrt{\frac{p(1-p)}{N}}
\]

Suppose we want to estimate the proportion of migration families of farm households within rural communities with a population of less than 20,000 in Taiwan, with a 96 percent confidence, the range of the migration proportion is 0.3 (unknown, here is only a hypothetical proportion), and indicate only a 8 percent vacillation on either side of our estimate of the proportion of farm households having a rural-urban migrant. In such a case, how can we determine the the number of farm households required in this sample?

We have the following equation for this:

\[
0.08 \leq 2\sigma_p = 2\sqrt{\frac{p(1-p)}{N}} \sqrt{\frac{P_0-N}{P_0-1}} \tag{1}
\]

Solving (1) for \( N \), we have

\[
N \geq \frac{4p(1-p)}{0.08^2} \cdot \frac{P_0-N}{P_0-1}
\]

Substituting \( P = 0.3 \), \( P_0 = 40,000 \), we have an equation with only \( N \) unknown, i.e.

\[
N \geq \frac{0.21}{0.08^2 + \frac{0.21}{40000}}
\]

\( N = 131 \)