

Research-data  
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Fundamental Differences of Population  
Phenomena by the Size of Communities,  
1925, 1930 and 1935.

by

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## I. Aim

It is our purpose to observe how "urbanity," "Characteristics of a city" changes corresponding to the changes of the size of communities in connection with the facts and several figures of population. We can conjecture that the circumstances in Japan in regard to this question are quite different according to three stages, namely, before the war, during the war, and after the war.

But in this investigation we determined to clarify at first the normal condition before the war.

## II. Method

We take cities, towns, villages as the smallest units of administrative districts in local society.

Considering the distribution of the cities in Japan from the view point of the size of the cities we adopt the eight classes of population as you see in the table I. thinking it to be a proper way for the observation and handling them.

Those cities that belong to eight classes and their populations are found in the table I.

In order to catch the "urbanity" we must work at various phenomena of population.

What have already been completed are as follows:-

Occupational composition of population, 1930; the density of population, 1935; the sex and age composition of population, 1930 and 1935; crude birth rate, death rate, natural increase rate, 1925, 1930 and 1935, and standardized birth rate, death rate, natural increase rate, 1930 and 1935, computed by means of, Newsholme-Stevenson's method using the population of the

whole

whole country in 1925 as its standard.

### III. Results

(1) The economic basis on which cities depend upon is industrial production and commerce and other industries of services. From this view point, the question how industrial composition of population will change by the size of community, may be said to have fundamental importance to the subject of this study.

As the table II. shows, the rate of the employed becomes less beginning with the communities which have the population of less than 5,000 and the rate of employed is 49%. It become less and less as the communities become bigger.

The communities whose populations range from 40,000 to 50,000 the rate becomes 40%, the smallest percentage.

Then it rises again in the communities whose populations are more than 100,000, it reaches 43%.

The agriculture in Japan by its nature causes the rate of employed to rise up. It is especially so in the case of women. Therefore as the agricultural population decrease when the communities become larger, the rate of employed falls.

But in the case of big city which has more than 50,000 people, the members of families who have no employment become fewer and the rate of employed rises again.

The rate of agricultural population very regularly falls as the community becomes bigger. Beginning with the community whose population is less than 5,000 and the rate of agricultural population is 71%, the rate of agricultural population gradually falls to less than 3% of a city whose population is more than 100,000.

It

It is worthy of note that the rate of agricultural population of the communities whose population are from 10,000 to 20,000, become less than 50%.

Moreover it is less than the average rate of the whole country. Besides, the rate of commerce and manufacturing population will of course increase as the communities become bigger.

It is also among the communities whose population ranges from 10,000 to 20,000 that the rate of commerce and manufacturing population outgrows agricultural. This is very important fact.

It is among the communities whose population range from 40,000 to 50,000 that the rate of agricultural population suddenly falls.

And it is almost the same with the communities whose population ranges from 50,000 to 100,000. Judging from these facts, we can deduce "urbanity" suddenly begin to be remarkable at the stage of communities which have a population of 40,000. The community of 40,000 population seems to be the demarcation.

The communities ranging from 40,000 to 100,000 are middle class cities and are stable.

When communities reach the class which have more than 100,000, they seem to assume the character of the great cities.

The rate of fishery population is determined by the geographical situation. Fishery is not the industry of very great communities, but it belongs to the communities which have a population of 40,000 - 50,000.

The rate of mining population is also determined by geographical position. This does not belong to great cities too. It belongs to the communities which have a population of 40,000 - 50,000.

It

It is needless to say that proportion of the population of commerce and industries rise up as the communities become bigger.

The communities which range from 10,000 to 20,000 and communities which range from 40,000 to 50,000 the rate of commercial and industrial population becomes remarkable. And the rate shows a sudden extension.

But here is a fact which attracts our notice is that very great communities which have a population of more than 100,000 have a little smaller rate of industrial population than those communities whose population of ranges from 50,000 to 100,000.

It is because industries of medium and minor scales attract comparatively larger population. These industries of medium and minor scale are mostly concentrating in the communities which have populations ranging from 50,000 to 100,000.

Such circumstances reflects most clearly the characteristics of Japanese industries before the war.

These medium and minor industries are light industries and the leading one of them is a textile industry, and are absorbing especially women workers. Accordingly, the rate of industrial population in the communities which have a population ranging from 50,000 to 100,000, is especially high in women. The rate of the population of communication and the rate of public service and liberal profession becomes bigger and bigger as the communities become bigger.

(2) When we observe the density of population, we find that it is suddenly extended at the communities 20,000 - 30,000 and 50,000 - 100,000.

Comparing with when we observe, by the rate of industrial population, the relation between the industrial

structure



structure and "urbanity," the class of the communities in point of population density is one class inferior to the class of industrial structure.

On this point the density of population may be less sensitive than the rate of industrial population.

Or it may be from the fact that the density of population which we use is arithmetical density and it is very formal and mechanic.

(3) When we look at the table IV. of age composition, we find that the proportion of productive age (15 - 59) population increases as the communities become greater.

The rate of younger population and old population are getting smaller as communities become bigger. It is worthy of note that the speed of the change of age composition corresponds with the above mentioned industrial composition almost perfectly.

(4) When we look at the table V., we find that it is very clear that the birth rate is getting less as the communities become big. The death rate gets less but it is not so distinct as the birth rate. We cannot tell distinctly whether it is due to the favourable change of age composition above mentioned or death become to be fewer or not.

The change of the birth rate correspond with the change of the industrial composition above mentioned.

(5) If we investigate about the standardized rate, 1930 and 1935 in the table V., what we could not catch clearly by means of crude rate become very clear.

The change of the standardized birth rate almost corresponds to the change of industrial composition.

Standardized

Standardized death rate becomes almost constant with only one exception of communities ranging from 40,000 to 50,000.

The special example of communities ranging from 40,000 to 50,000, may be exception or not, we can't tell unless by further research.

The change of sizes of communities is very sensitive to the birth rate, but we can assume that death rate has no apparent connection to it.

#### IV. Conclusion

"The characteristic of a city" or "urbanity" has close connection with the size of communities. "Urbanity" of communities is most clearly showed by the fact that most synthetically reflect the change of economic basis of community, that is, the change of industrial composition, and characteristic of social relation, that is, fertility.

From this point of view the community which have a population of less than 10,000, have almost perfect quality as rural villages.

The communities whose population range from 10,000 to 20,000 begin to show the characteristics to be the transitory zone from rural to urban. If we were to divide urban and rural, into two groups, the communities whose population is 10,000 seems to be on a demarcation line.

The communities whose population range from 20,000 to 40,000 begin to show the characteristics as cities.

The communities whose populations are 100,000 show that they are settled as cities.

Those

Those communities having more than 100,000 show distinctly as great cities.

In view of these facts we may divide communities as follows:-

- rural village..... under 10,000 population
- local city..... 10,000 - 20,000
- small city..... 20,000 - 40,000
- medium city..... 40,000 - 100,000
- great city..... 100,000 and over