Estimating Method of the Future Population
at Small Administrative Unit

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Abstract: Japan is facing the problem of aging of population and the declining of birthrate. Because of this problem, it will become difficult to maintain today's social systems in the near future. Therefore, estimation of the future population is an important task to predict the changes in business and social models. Many previous studies have estimated the future population in municipality units. However there are only a few studies that estimate in each unit of city block or city district called the "Cho-cho-moku" in Japan. It is expected to realize more reliable and detailed policy, urban development and economic plans to use such kind of estimating population data. In this study, we estimate the future population based on the Cho-cho-moku units by the Cohort method and compare the regional characteristics.

In this study, it is important to analyze regional population distribution using estimated natural change and social change. We adapt and modify the assumptions on the natural changes, such as birth and death, based on the existing population structure in each Cho-cho-moku unit. On the other hand, it is difficult to estimate future social changes at small administrative units, because the changes are sudden and not constant. Therefore we calculate the total number of the future migrants in the municipality, and distribute it to each Cho-cho-moku units based on their characteristics. Thus, it becomes possible for us to reflect the characteristics of social changes to our estimated model.

In addition, there are two approaches to verify the reliability of our data. The first is to develop estimating data of the present population using previous population data in each Cho-cho-moku by the Cohort method, and compare them with the actual present population data. The second is to develop estimating data of future population using present population data in each Cho-cho-moku, and compare estimating total population of each municipality calculated by our data with previous studies.

Keyword: Aging of Population and Declining of Birthrate, Estimation of the Future Population, Cho-Cho-Moku Unit, Cohort Method