# Study for the Development of the Japanese Mortality Database

Futoshi ISHII

This study aims to develop the "Japanese Mortality Database" (JMD) which is a reorganized life table database for demographic study, using as reference advanced international mortality databases, to position it as a basis for comprehensive research on longevity based on diversified and interdisciplinary approaches.

First, we reviewed the methodology used in the Human Mortality Database (HMD) following a publicized method protocol. This methodology begins with some adjustments for the numbers of deaths and population, then estimates the population as of January 1st using four methods, namely linear interpolation, the intercensal survival method, the extinct cohorts method and the survivor ratio method, and obtains the exposure to risk. Then, mortality rates are estimated using curve fittings and the life tables are created.

Through the review of the methods for the HMD, we found some points that could be improved in terms of Japanese life tables considering their comparability, and made some improvements to suit Japanese mortality situations.

We also constructed prefectural life tables. We maintained the same methods as for the entire country in terms of comparability. From observation of the female mortality rates for Tottori prefecture, we found that the estimated rates are not stable, and we could not obtain a natural age pattern. On the other hand, we were able to acquire stable patterns for the tables by five years of age and five years of time. Therefore, we decided to provide the prefectural life tables by five years of age and five years of time, and by five years of age and ten years of time.

The JMD life tables based on the HMD methods made it possible to provide tables in the same format, which are useful for time series analysis, and succeeded in improvement to suit Japanese mortality situations. We could say that it provides highly useful datasets specific to Japanese mortality studies, together with prefectural life tables that are not included in the HMD. As a whole, we succeeded in providing life table series that are used as basic materials for mortality analysis, and we believe that the database will bring substantial progress to demographic studies on Japanese longevity.