No.2.   A maximum level of the global population

If you leave moldy New Year's rice cakes for a while, molds spread out to the whole rice cake, which causes qualitative changes of rice cakes.   Rice cakes then are no longer "rice cakes" because of molds. On the other hand, pond smelts in the Lake Suwa, which are the higher animals than molds, lose weights when the number of pond smelts inhabiting in the lake is increased. Consequently, the amount of fish they catch is decreased, which suits the environmental permissible level of the Lake Suwa. Because the number of spawn is proportional to the weight of a female pond smelt, the number of pond smelts living in the Lake Suwa is decreased in the following year and the individual's weight is increased (Yoshikazu Shiraishi, 1961). So to speak, the pond smelt lives continuously in finite Suwa Lake by the natural adjustment principle of "coexisting in mutual poverty and coexisting in mutual prosperity."

The population problem includes political and religious difficulties. However, it is only natural that there is a limit to the number of people living in the limited earth. At present, the population is increasing in 90 millions per year (250,000 per day), although this sharp-increased number results from the subtraction of the annual number of deaths (50 millions) from births (140 millions). Of the 90 millions of increased population, 84 millions are from the Third World (18 millions in India, 15 millions in China) and only 6 millions from the all advanced nations. Therefore, in the global level, there are big gaps of population between in various areas.   In the Third World, a rapidly increased population destroys natural resources in the local level and begins to threaten people and other creatures living in this area, which leads to the environmental destruction in the global level. As a result the population in the state of famine in these areas gets to as many as 1 to 1.2 billion people and will keep on increasing. In the area where the population is rapidly increased, the environmental aggravation and the economical decline are mutually accelerated, which becomes a vicious circle and begins to destroy the natural reproduction system of the earth until its basis/foundation.   According to a demographer Frank Norton, the Succession Theory (1945) used to be as follows:

First stage: Premodern society form, high rates of both births and deaths, and a little increase of the population.
Second stage: Improvement of living conditions, a high rate of births and a low rate of deaths, and rapid increase of the population
Third Stage: low rates of births and deaths and the stability of the population along with the economical and social improvement

This theory, however, does not take it into consideration that there is a tolerance limit in the natural resources consumed by the increased population at the second stage. At present, the majority of the population is distributed to either the second stage (the Third World countries) or the third stage (Western countries) and this bipolarization is getting more extreme on the population growth. The similar bipolarization phenomena occur on the amount of the resource consumption and on the environmental destruction. The population of Japan is the most stable of countries of the third stage and seems to have nothing to do with the worldwide population growth. However, as long as the environmental pollution is globally spreading out, the pressure of population growth from the second stage countries will threaten the stability of the third stage countries, such as Japan, in the near future.

If we simply calculate the population, assuming the rate of annual increase as 90 millions, it will become 6.9 billions in 2010 and 10.5 billions in 2050 or above of it. We should know that the population in the next 100 years be 19 times as much as now if the population is increased by 3 % per year in the region with a population explosion. It has been reported that the maximum number of the global population is 11 billions, although this number is different depending on the researchers. A zoologist Calhoun in the U.S. once reported the maximum level of the global population as 9 billions through the research of rats' ecology. However, according to the recent report of the World Watch Institute, the maximum level of the global population is 7 billions if we estimate it based on the food resources. This means the global population will reach the maximum level within 10 years since the current population is 6 billions if the population is increased at the same rate. Therefore, we, human beings, will know within 10 years whether we have the same knowledge level as pond smelts or not.

"Human activities, unlike those by animals, are not limited locally but affect the entire globe. For example, intense production activities in specific areas bring about consumption of resources in distant areas and environmental pollution caused there spreads gradually to the surrounding areas. Furthermore, atmospheric pollution by fossil fuels and fluorine gas has a potential to change the environment of the entire globe." ("Ecology of Extinction" by Kazumi Miyazawa)

"We know that the humans belong to the earth, not that the earth belong to the humans. It is not the humans who wove the complicated relations of life. The humans are just thread in the woven fabric.   All humans do not the fabric will end up being done on the

humans themselves." (From a letter by an American Indian Seattle chief, to the United States of America)

——The comparison of the statistical values——

The global population of the next two centuries if the population is increased at the same rate: 135 billions

The maximum level of the global population estimated by researchers: 11 billions

The average number of the population growth in every 1,000 years for hundreds of thousands years in the pre-agricultural periods: 40,000

The average number of the population growth in every 1,000 years for thousands of years in the agricultural periods: 600 millions

The approximate number of the population growth during 100 years in

1800 – 1900	: 900 millions
1900 – 2000	: 4,200 millions
50 years in 1950 – 2000	: 3,100 millions

Annual amount of money necessary for the reproductive health care (birth control) for all women in developing countries (in addition to the current outlays): 12 billion dollars

Annual amount of the expenditure for perfumes in Europe and the U.S.: 12 billion dollars

Annual amount of money necessary to provide every person in developing countries with basic health and nutrition (in addition to the current outlay): 13 billion dollars

Annual amount of the expenditure for pet food in Europe and the U.S.: 17 billion dollars

Annual amount of money necessary to provide every person in developing countries with basic education (in addition to the current outlay): 6 billion dollars

Annual amount of the global expenditure for the military use: 780 billion dollars

Reference: World Watch Japanese edition [vol.11 No.3]

The excerpt is partially revised and added