

B-13 Evaluation of Risks of Global Warming on Human Health

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(1) Since global warming will have an increase heat stress in hot summer, the health risks of hyperthermia caused by heat stress has been studied. According to the epidemiological studies in China and Japan, the incidence of heat stroke of aged person increased remarkably under hot temperature in summer. Hyperthermia developed degeneration in various tissue and intracellular components, such as mitochondria and microsome. In immune system, thymus lymphocyte, spleen lymphocyte, and humoral antibody reaction has markedly damaged in hyperthermia.

(2) Since global warming may change the patterns of rainfall and temperature, the prevalence of vector borne disease, such as malaria will change. According to the field survey of malaria in Yunnan Province of China, it was confirmed that high- endemic, low- endemic, and non-endemic areas was correlated with the local climate. The malaria vectors, such as *Anopheles minimus* and *Anopheles sinensis* were inhabiting in mountain streams and rice fields in some malaria endemic areas.

(3) In the mortality data of vital statistics in Japan, the number of death of aged person correlated to the maximum temperature of local areas. The mortality increased on the days when the local maximum temperature rose above 33°C. The use of air conditioner scarcely modified the heat-related mortality.