

Geo-Pollution Science, Medical Geology and Urban Geology

Vol.2 No.2 2006

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Evolution of Disaster

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Abstract

Disaster occurs only when human society and a natural phenomenon come into contact. No severe natural phenomena bring about disaster by themselves. When defense against one type of disaster has been established, another unexpected form often occurs thereafter.

Disaster evolves because the human society evolves.

Although we can not avoid new types of disasters, it is possible to decrease the destruction done by disasters by acting on information obtained from detailed, continuous studies of natural phenomena.

Following rules may be applied to the evolution in the form of the natural disasters. A new type of disaster occurs during the process of the recovery when man breaks the balance of nature. Similar scale of natural phenomena does not necessarily cause disasters. The deciding factor is the existing state of the human society involved.

Evolution of disaster occurs even without unusual natural phenomena but in usual natural state. A lot of wastes induce air pollution, water pollution and geopollution.

For instance, some garbage and wastes evolve harmful materials when smoke meet with fog, some chemical compound as VOC etc. meet with bacteria in underground. Harmless material evolves harmful material when harmful material for health is newly found in the same waste.

Some spots where garbage and industrial wastes disposed evolve contaminate areas when harmful materials are newly found from wastes.

Keyword: Disaster, Evolution, Natural phenomena, Equilibrium, Wastes, Air pollution, Water pollution, Geopollution

Exploitation and Tsutsugamushi disease of Niigata Plain, Northeast Japan

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Abstract

Tsutsugamushi disease (scrub typhus) conveyed by larva of Trombiculid mite (*Leptotrombidium akamushi*) frequently occurred in the summer along the Shinano and Agano Rivers of Niigata Plain, in Niigata Prefecture. The mite, called "Tsutsugamushi", inhabited only the riverside land. The history of exploitation of the plain, which was closely connected with formation of the riverside land, is investigated, and also number of the patients and the mortality are analyzed. The exploitation rapidly progressed during the early stage of the Edo era (1603 to 1868), and in 1779, the area of paddies possessed by the Mizoguchis, a lord of the plain, increased by about two times that of 1598. River improvement works were performed with progress of the exploitation, and the disease had certainly prevailed since around the Genroku period (1688 to 1704) when the riverside land was begun to form by active construction of the embankments. The disease was also distributed along the Uono River (a tributary of the upper Shinano River) of the Muikamachi Basin, the Mogami River in Yamagata Prefecture and the Omono River in Akita Prefecture. The differences of the mortality suggest that the disease can be subdivided into three types distributed in the Shinano-Uono, Agano-Mogami and Omono River Basins.

Keyword: Niigata Plain, early Edo era, exploitation, riverside land, Tsutsugamushi disease (scrub typhus), mortality