

Recent Publications

Otsubo, Kuninori (ed.) (1999) : Proceeding of 1999 NIES Workshop on Information Bases and Modeling for Land-use and Land-cover Changes Studies in East Asia. Center for Global Environmental Research, National Institute for Environmental Studies, Environment Agency of Japan, CGER-1036-'99, 16-2 Onogawa, Tsukuba, 305-0053 Japan, 293 pages [Contact : Fax : +81-298-58-2645, E-mail : *cgercomm@nies.go.jp*]

The 1999 NIES Workshop was held under the title as written above on January 25-27, 1999. This Workshop was aimed to develop better understanding in land-use/cover change in East Asia and to establish a research network for further collaboration.

The first report by Otsubo outlines the research project of the second phase of LU/GEC, which is funded by Environment Agency of Japan, starting in 1998. The first phase of LU/GEC project was carried out from 1996 to 1998. The second phase has four sub themes.

Y. Himiyama, chair of IGU-LUCC, described its role, activities and networking in the study of land-use/cover change in East Asia. The studies in the southern part of Beijing by T. Kikuchi discussed the factors of land-use change.

Results of modeling, one of the main methods of this project, were reported by several researchers. Taking into consideration on human activities, population and GDP were regarded as major socio-economic factors influencing land-use change. S. Hoshino dealt with farmland/urban land-use change in Japan from 1975

to 1990 by analyzing controlling factors. The other topics presented were studies in Taiwan, estimation of green house gas from land-use change, data requirements, human-induced soil degradation, coastal reclamation in Korea, land-use/cover changes in mountain regions, monitoring, seasonal change of green lands in Asia and North America, land-use/cover changes in Russia in Far East. A. Bito estimated future food supply in China, based on a land-use/cover change scenario. Color maps of the status in 2030 as compared for that of 1985. K. Matsukura *et al.* showed a modeling the land-use change and supply and demand structure for food in Asia. It was concluded that the amount of food demand will exceed the amount of food supply in India and China by 2010, if the exchange rate in 1994 is to be continued and capital investment and the ratio of laboring population change as has been hypothesized.

The other topics to be noted are : soil degradation due to acidification, 1 km drainage model, water resources in the Huabei Plain, nitrogen/carbon cycle model, monitoring of biological land productivity, relationship between land-use/cover change and industrialization/urbanization in East Asia.

At the end of the volume, national report of the Asian countries and the participant list are given. As a whole, particularly significant points in this Workshop were modeling of land/cover change and the intensive studies in the East Asian regions. Factors as human activities, population, GDP etc. were taken and factors as natural, soil degradation, water condition etc. The results of the second phase will be fruitful too.

Recent Publication

All China Atmospheric Environment Impact Assessment Cooperation Working Group (1998) : Atmospheric Environment and Assessment of Environmental Impact. Meteorology Press, Beijing, China, 142 pages, price 18 Chinese Yuan (in Chinese with English abstracts).

The Editorial Committee of the Working Group under the main editorship by Xu Dahai presented the results of studies and summaries of service and experience during recent years on this subject in China.

This monograph is dedicated to illustrating the atmospheric environment and presenting their new technology and methods for assessment. The contributors were mostly at the Chinese Academy of Meteorological Sciences in Beijing or at various provincial meteorological services/research centers/research institutes.

There are many interesting descriptions. For example, Fen Guozhen and others presented the following results on noise pollution along a highway near Guangzhou, South China : the predicted values for the years around 2016 are larger during daytime (06 : 00-22 : 00) than nighttime (22 : 00-06 : 00) under the condition of the maximum number of cars (88,260 per day) with a speed of 120 km per hour. The daily range is 10.4 dB (A) at points 100-200 m from the highway, but 8.5 dB (A) at points 5-70 m from the highway. This means the noise near the highway is high throughout the day. In one extreme case, the maximum reached 83.4 dB (A) at a point 5 m from the highway during daytime.

As a whole, the articles included in this monograph are at a high standard from the viewpoint of pollution meteorology. The chance to learn about recent developments in assessment technology in China through this monograph is to be highly appreciated.

Recent Publications

Proceedings of Japan-China Workshop on Land Evaluation of Prevention and Remedies for Desertification. February 24-25, 1998. National Institute of Agro-Environmental Sciences, 3-1-1 Kannondai, Tsukuba, 305-8604 Japan. FAX : +81-298-38-8199, E-mail : fukuhr@niaes.affrc.go.jp

The Japan-China joint research program entitled "Study on Evaluation of Prevention and Remedies for Desertification," sponsored by the Japan Environment Agency, was implemented from FY 1995 to 1997, in order to develop methods to evaluate the effects of desertification prevention measures in North China. The purpose of this workshop was to discuss the results of the program, learn about the conditions of the research activities, and seek items for collaborative research to establish suitable land use systems.

The first paper, "A study on land degradation management and regional differentiation of China," by Zheng Du, dealt with (1) main types of land degradation and their distribution in China, and (2) land degradation management in the arid and semi-arid regions in relation to regional differentiation. The later consist of combating sandy desertification mainly to shifting dunes, management of secondary salinization, management for controlling soil erosion and soil conservation, and countermeasures for amelioration of degraded grasslands in the Tibetan Plateau. A flow chart illustrates the methods and approaches for management of land degraded. It is very constructive.

The second paper, "Evaluation on combating sandy desertification in North China," by Wang Tao

et al. gives a general view. It indicates that human activities play a major role in degrading the areas studied in North China. The major causes of the spread of sandy desertified land include over-cultivation (contributing 25%), over-grazing (28%), over-gathering of firewood (32%), misuse of water resources (8%) and engineering factors (1%), totaling 94% of contributing factors. A table is given showing effective changes for combating desertification in Xinglongzhao, Naimanqi, Inner Mongolia from 1974 to 1994. The third paper discusses "The desertification monitoring over semi-long and short period," and the fourth paper, "Land degradation and soil properties" also in Naiman. Color maps of soil type distribution and soil productivity were presented.

Other topics given in the Proceedings are : effects of fertilizing and watering on grass biomass of sandy grassland, vegetation degradation, restoration and improvement of grazing pastures, productivity changes and evaluation of utilization under different grazing intensities.

The last five papers dealt with (1) comprehensive development strategies, (2) land use and farming systems for combating desertification, (3) study of biomass and grazing pressure by using remote sensing, (4) land degradation and its management and (5) changing patterns and cause analysis of land desertification in space and time.

In conclusion, the papers presented in these proceedings clarified the problems in detail in the arid and semi-arid regions in North China, particularly land degradation in relation to grazing.

Recent Publications

Chen, Longheng *et al.* (1998) : Aeolian Sandy Soils in China. Science Press, Beijing, China, 188 pages. 28 Chinese Yuan (in Chinese with English abstracts)

Aeolian sandy soils have a sandy layer 1 m or more in thickness, which mainly consists of well-sorted fine sand. Particles of 0.25-0.05 mm account for over 80%, but profiles are weakly developed and the consistence is loose. Aeolian sandy soils in China are distributed mainly in three major zones : the arid zone in Northwest China, the eastern monsoon region and the Qinghai-Xizang Plateau.

This monograph contains seven chapters, covering : (1) distribution, (2) formation, (3) physical properties and water regimes, (4) chemical composition, (5) microbiological characteristics, (6) classification and (7) utilization and amelioration of

aeolian sandy soils. At the end, there are 106 references and an appendix of latin names of plants cited in this monograph.

The authors indicate that since moisture and temperature regimes are the basis of soil properties, the soil groups were classified according to their ranges region-to-region in China. They divided soil moisture regimes into seven types and soil temperature regimes into eight types, and classified subgroups mainly by deviation from the central concept of auxiliary, additional processes and relic features inherited from parent materials. The result was eight groups and seventeen subgroups in China. Lastly, they showed the demarcation of the utilization and amelioration zones.

This is a valuable contribution to taxonomical soil classification in China, based on recent results of studies.