



China

Environment and
Development Review

中国环境与
发展评论 (第五卷)

中国农村生态环境安全

中国社会科学院环境与发展
研究中心



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张晓 主编

馆藏



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前 言

张 晓

《中国环境与发展评论》(第五卷)(以下简称“本卷评论”)针对中国环境与发展“短板”——中国农村生态环境问题展开。在问题层面,针对水、土壤、草原、碳排放、畜产品、化肥、农业科技等,我们组织国内外比较活跃的一批学者,进行了独立的分析讨论;为了揭示农村环境问题背后深刻的国情特点以及国际农业发展脉络,本卷评论拓展了背景分析研究;除了一如既往的宏观视角,本卷评论还特别给出了具有鲜明微观特色的典型案例研究,它们都富有正面积极意义,而不是单纯的评论。注重定性定量方法相结合、宏观数据与微观案例分析相结合,是本卷评论的特点。

我国农业、农村的发展取得了世人瞩目的成就,这是毫无疑问的。然而其代价,特别是农村、农民付出的代价很大,生态环境问题只是其中重要的组成部分。以往国内的相关研究鲜见集团式、系统性成果。我们希望,本卷评论的出版能引来对农村生态环境安全问题更多的关注,以及更多有关长期性、战略性以及可持续性问题研究。

本卷评论由张晓策划并形成全书框架、负责组织作者及评阅。中国社会科学院环境与发展研究中心郑玉歆、张晓,数量经济与技术经济研究所赵京兴以及环境保护部过孝民参与审稿。

本卷评论得到中国社会科学院“经济政策与模拟”重点研究室资助。

在此,对于长期关注、支持《中国环境与发展评论》的学术同行、各界人士表示衷心感谢!同时,特别感谢中国社会科学院数量经济与技术

术经济研究所原所长汪同三研究员、现任所长李平研究员、副所长李雪松研究员、环境保护部过孝民研究员对《中国环境与发展评论》给予的一贯支持与帮助。

最后，感谢中国社会科学出版社任明主任给予的出版支持。

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(以文章顺序为序)

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“Three Rural Issues” and the safety of China’s water environment

ZHANG Xiao

【Abstract】 Water pollution is a serious threat to the safety of China’s water resources. Agricultural production, rural lives and water pollution are closely linked. Firstly, this article comprehensive analyzes the macro trend of water pollution in the country. By examining the historical changes of the designed surface water pollution index, it is found that, pollution of rivers, lakes, reservoirs, coastal waters showing an overall upward trend, which reservoirs and lakes pollution increase faster or the same than the growth rate of total economic output over the same period. Rural drinking water security issues are still very serious. These reflect the cost of the water environment of China’s economic growth. Secondly, the article also analyzes and discusses various water pollution “contributors” from the perspective of agricultural cultivation, aquaculture, rural industries, rural infrastructure etc. At last, this article reviews the focus of environmental policy principles, analyzes the impact of water pollution on farmers’ health, the plight of the rural environmental infrastructure construction in the institutional factors, and the efficiency of chemical inputs to water pollution impacts. The article considers that, the weak link to solve the problem of water pollution is in rural areas. Farmers not only to withstand the damage of the water pollution such as morbidity, poverty, and death, but also mostly don’t have channels of expression and the right to speak, which may lead to social security incident. Water pollution can cause agricultural decline in quality and even unsafe by various types, directly or indirectly affect the level of benefits for society as a whole. Therefore, the problems of water pollution are our nation’s most pressing envi-

ronmental security issues.

【Key words】 Water Pollution; “Three Rural Issues”;
Environmental Security; Human Health; Environmental Policy

Dual economic background of China's ecological and environmental issues

ZHAO Jingxing

【Abstract】 This article points out that China's dual economy is characterized by urban and rural economy, the mostly manifestation is the coexistence of urban economy and the county economy, and income gap between urban and rural residents. Depth analysis of the microscopic foundation of China's dual economy indicates the underlying causes that make farmers' income low. On this basis, the paper points that China's dual economic structure is the basic reason that causes macroeconomic imbalances. Thus, contradiction of the dual economic has become the principal contradiction that impact China's current economic development. It's urgent to incorporate them into the National Development and Reform Planning as soon as possible. The basic purpose of the exposition is to offer the dual economy background to understand China's ecological and environmental issues.

Territory plan, regional development and rural ecological environment

LI Qing

【Abstract】 The rural ecological environment issue is a matter with complicated reasons which not only affiliate to the development and construction of rural areas themselves, but also influent and interact by its external conditions. It closely relate to the contemporary context of industrialization and urbanization courses of China, the regional development patterns and institutional arrangement. In these comprehensive cases, we should understand the rural ecological environment issues and its solutions from the view of Urban and Rural Harmonious and scientific development. The key solutions include implement rural-urban planning law, establish planning system overall rural-urban development, particularly strengthen the planning and construction under city level; strengthen the plan overall rural-urban development, approach to the territory plan started comprehensive planning system, improve the fiscal and its transfer system, seek for the more coordinated and balanced way of new countryside construction program.

【Key words】 Territory Plan; Regional Development; Urban and Rural Harmonious; Rural Ecological Environment

Production mode of agriculture and its impact upon environment

——case study of U. S.

LI Yuhong

【Abstract】 Production mode of agriculture exerts impact upon environment through two channels, the first of which are productive forces and the second are production relations. On one hand, new technologies build up human capacity to work on nature, widen and intensify agricultural activities, and finally enlarge human activities in a larger space, which aggravates the influence of agriculture on environment. On the other hand, production relations determine behaviors of farmers. Environmental damage in developing countries becomes vicious circle of poverty due to inequality of distribution in land left from colonial time. Farmers in developed countries, however, are no longer stewards of environment and have to increase agriculture output to maximize profit, which leads agriculture to a high-risk system manipulated by human in a similar way with manufacturing.

【Key words】 Productive Forces; Production Relations; Mechanization; Capitalism; Stewardship

The soil pollution situation is grim in China, urgent need to accelerate the pace of prevention

ZHENG Yuxin

【Abstract】 This article analyzes the seriousness situation of soil pollution and its harm. According to the backward status of soil pollution prevention and control in China, this paper points out that speed up the work has realistic urgencies, and proposes a number of recommendations. Hope that relevant departments could face the serious situation, to further improve the awareness of the severity, understand the dangers of soil pollution, and strengthen the sense of responsibility for people's lives and health, accelerate the pace of the work. Soil pollution prevention and control related laws and regulations should be unveiled as soon as possible. Amendment of the soil environmental standards should be accelerated. Speed up the establishment of a soil environmental quality monitoring network brook no delay. Heavy metal pollution sources and contaminated land management and control should be further strengthened. The State Council should set up specialized agencies responsible for soil pollution prevention and restoration. Soil pollution information should be gradually open. Our existing extensive environmental management approach should be changed urgently.

Real or fictional over grazing: Discussion of a major problem that affect grassland ecological environment

Dalintai and ZHENG Yisheng

【Abstract】 The current ecological protection policy of grassland is based on the judgment of “over grazing”. Over the past decade, the conclusion of “over grazing” is generally recognized by academic community, this necessarily influenced and determined the direction of China’s ecological policy. Concerning whether grassland over grazing or not, previous literature almost showed the fact that “animal numbers increase”, which use total cattle numbers in the Inner Mongolia region, divided by a natural grassland area, instead of the conclusion “overloading over grazing”. However, the practice that proves the conclusion of “over grazing” from the definition of “over grazing” rarely seen in the past over grazing literature. The perspective of this study is the traditional methodology starting from academia to recognize the “over grazing” in the past. According to the Inner Mongolia Autonomous Region five economic types and different economic divisions corresponding to the meadow area, livestock, and pasture use or animal husbandry practices for the corresponding study, find that because exist livestock production mode not completely dependent on grassland, cause a “statistical illusion” for people in the study of over grazing problems. It is this statistical illusion, results distorted institutional arrangements. Over grazing can lead to grassland degradation, but the degradation of the grassland does not necessarily over grazing. We cannot continue to use the method that solve “over grazing” to fix the problems of “grassland degradation not over grazing”. It is precisely those economic zones that grassland degraded, have large livestock density or

statistical “over grazing”, is the need to study and govern “overload over grazing” problem areas. The main content of this paper is also including reveal what is produce the phenomenon of “over grazing” in those areas. The results show that the majority of the grasslands in Inner Mongolia, that is, a typical pastoral areas carrying livestock volume (0.41 sheep units / ha of grassland) does not exceed the theoretical carrying capacity (1.14 sheep units / ha of grassland), but the farming and pastoral areas, agricultural areas, industrial and mining areas livestock density is quite large, these three areas of over grazing by 108% , 368% , and 600% . The misunderstanding of over grazing, not only because of the lack of detailed information, but also the concept of over grazing need patulous research, for example, how to combine the meaning of “overloading over grazing” with Inner Mongolia’s livestock production mode that different from the typical pastoral areas such as farming and pastoral areas, agricultural areas, even industrial and mining areas.

【Key words】 Identification of Overload over Grazing; Statistical Illusion; Statistics Match; Livestock Production Mode; Inner Mongolia Autonomous Region

The impact of farmers' consumption on carbon emissions

——comparative analysis based on urban residents differences

ZHANG Youguo

【Abstract】 This article uses input-output model estimate the city and rural residents' direct and indirect carbon emissions impact from 1987 to 2007, and makes factor decomposition of the differences. The results show that consumer cannot be ignored on carbon emissions. In the entire study period, the total carbon emissions impact of consumer growth nearly doubled, although its proportion of total carbon emissions in China declined in 2007, still about 30%. Household consumption of various goods (or services) indirectly cause Carbon emissions are much higher than directly consumed by energy. Either total or per capita, the amount of direct carbon emissions caused by city and rural residents show the convergence of trends, but the gap of indirect impact is expanding. The differences of carbon emissions from the consumption of urban and rural residents are decided by five factors, such as population size, per capita consumption level, per capita direct energy consumption, consumption structure and direct energy consumption structure. Population size difference is the most important factor, which effectively constrain the expansion of city and rural residents' carbon emissions differences. However, with the continuous progress of urbanization, its impact is waning, and become a secondary factor. Instead, the difference in per capita consumption level has been promoting the city and rural residents' carbon emissions difference to expand, which influence increase more and more.

【Key words】 Household Consumption; Carbon Emissions;
Urban-Rural Differences; the Input-Output Analysis; Factor De-
composition