



全国高等农林院校“十一五”规划教材

土地资源管理 专业英语

谭淑豪 ■ 主编

 中国农业出版社

全国高等农林院校“十一五”规划教材

土地资源管理

专业英语

土地资源管理专业用

 谭淑豪 主编

中国农业出版社

图书在版编目 (CIP) 数据

土地资源管理专业英语/谭淑豪主编. —北京: 中国农业出版社, 2008. 1

全国高等农林院校“十一五”规划教材

ISBN 978-7-109-12004-4

I. 土… II. 谭… III. 土地资源-资源管理-英语-高等学校-教材 IV. H31

中国版本图书馆 CIP 数据核字 (2008) 第 001015 号

中国农业出版社出版

(北京市朝阳区农展馆北路 2 号)

(邮政编码 100026)

责任编辑 何晓燕

北京通州皇家印刷厂印刷 新华书店北京发行所发行

2008 年 2 月第 1 版 2008 年 2 月北京第 1 次印刷

开本: 720mm×960mm 1/16 印张: 30

字数: 540 千字

定价: 39.80 元

(凡本版图书出现印刷、装订错误, 请向出版社发行部调换)

内 容 简 介

《土地资源管理专业英语》以 52 篇短小精悍的英语原文，全面、系统地介绍了土地资源管理学科重要分支领域的主要基本理论、基本概念和基本方法，是目前国内土地资源管理学科的第一部专业英语教材。

《土地资源管理专业英语》共分 6 个部分，每部分包括若干篇经典专业英语原文及编者对主要专业词汇和句子等的解读。第一部分：资源（土地）与环境经济学，包括资源与环境经济学、土地经济学；第二部分：土地利用管理，包括土地资源的分类、调查、评价，土地利用规划、土地用途管制、建设用地管理、土地整理；第三部分：地籍管理，包括土地权属调查、土地动态监测、土地登记、土地统计；第四部分：土地信息管理，包括遥感、航测、地理信息系统、土地信息系统、地图编绘；第五部分：土地制度、政策与法规；第六部分：土地市场管理，包括土地估价的理论与方法、不动产金融、不动产开发、经营与房地产市场营销。

本教材可供土地资源管理专业的本科生、研究生和教师使用和参考，也可作为有关行政管理技术人员和技术人员的参考书。

主 编 谭淑豪

副主编 尹 君 吴克宁

参 编 (以汉语拼音顺序为序)

陈志刚 胡小芳 刘学录 孟繁瑜

谭淑豪 吴克宁 尹 君 张蓬涛

诸培新 邹秀清

审稿人 谭仲春

前 言

历时一年多，这本由中国农业出版社发起组织的教材终于编就了。在目前高校专业英语统编教材不多，特别是高等农业院校英语统编教材尚寥寥无几的情况下，本教材的编写对提高土地资源管理专业本科生和研究生的专业英语能力，帮助学生及时掌握国内外土地资源管理的动态必将大有帮助。教材的编写有如下特点：（1）编写人员多为有国外留学或进修背景、并具有相当专业英语教学经验的教师组成，主编谭淑豪为荷兰 Wageningen 大学博士；（2）题材从欧美国家现有教材、相关的国际期刊和网络上筛选；（3）对每课的生词和专业词汇在文中用黑体字标出，并分别在课文后加注音标和词义；（4）对课文中的灵活用法和疑难句子在文中标出，并在文后给出相应的注释；（5）教材由 6 个部分的 52 篇英文原文组成，涵盖了土地资源管理专业的主要方面，选材兼顾了本科生和研究生的教学要求，也可作为专业人员业余学习之用。

参与本教材编写的学校和教师有华中农业大学的胡小芳、江西财经大学的邹秀清、中国地质大学（北京）的吴克宁、中国人民大学的孟繁瑜、河北农业大学的尹君和张蓬涛、甘肃农业大学的刘学录、南京大学的陈志刚、南京农业大学的诸培新和谭淑豪（现调往中国人民大学）。南京财经大学的谭仲春老师对本教材的注释进行了审核。

教材编写得到了来自各方面的支持：首先是中国农业出版社和南京农业大学教务处提供的经费支持，这对于编写组是一个极大的

鼓励；其次，参编老师们在繁重的教学和科研情况下，仍尽心尽力、不厌其烦地校对和修改稿件；各参编院校的教务处、院系及校领导的支持和帮助也是必不可少的。在此谨对他们表示诚挚的谢意！

由于编者水平有限，教材中的不足之处在所难免。恳请广大师生提出宝贵意见，以便再版时修正。

编 者

2007年10月

Contents

前言

Part I Resource (Land) Economics and Environmental Economics

- Three Themes: Efficiency, Optimality and Sustainability 2
- Fundamental Issues in the Economic Approach to Resource
and Environmental Issues 11
- Property Rights and Externalities 21
- Property Rights, Externalities, and Environmental Problems:
Improper Rights and Imperfect Market 30
- Property Rights, Externalities, and Environmental Problems:
Government Role and the Pursuit of Efficiency 40
- Introduction to Land Economics; Scope and Content 49
- Concepts of Land Economics 55
- Land Resources Supply and Demand 64
- The Valuation and Use of Land 69
- Farmland Preservation 79

Part II Land Use Management

- What Is Land Consolidation 88
- What Should Be Considered in a Land Consolidation Pilot Project 97
- Background of Land Use Control 106
- Land Use Control Implementation Plan 112
- Land Use Plan Decisions 121
- Brief Introduction of Land Evaluation 129
- Economic Land Evaluation 138
- Training Needs for the Next Generation of Soil Surveyors 150
- Methodology for Soil Resource Inventories 159

Part III Cadastral Management

- Introduction of Cadastral Management 170

○ Land Registration and Its Computerization	182
○ Land Utilization Surveys	191
○ Land Survey and Monitoring Based on 3S	199
○ Systems of Land Survey and Registration in China	208

Part IV Land Information Management

○ GPS Background and ITS Description	222
○ Introduction to Map Design (I)	231
○ Introduction to Map Design (II)	238
○ Introduction to Map Design (III)	248
○ GIS and LIS (I)	256
○ GIS and LIS (II)	263

Part V Land Institutions, Policies and Laws

○ Government Interventions in the Urban Land Markets (I)	272
○ Government Interventions in the Urban Land Markets (II)	279
○ Government Interventions in the Urban Land Markets (III)	289
○ Transfer of Development Rights	298
○ What is Land Tenure?	305
○ The State Socialist Welfare System and the Political Economy of Public Housing Reform in Urban China	313
○ Rent Subsidies in the USA and Housing Allowances in the Netherlands: Worlds Apart	324
○ A Comparison of US and Canadian Residential Mortgage Markets	332
○ Corporate Real Estate and Stock Market Performance	341
○ Bank Asset Structure, Real-estate Lending, and Risk-taking	348

Part VI Land Market Management

○ General Valuation Concepts and Principles (I)	358
○ General Valuation Concepts and Principles (II)	365
○ International Valuation Standard I (IVS I): Market Value Basis of Valuation	372
○ International Valuation Standard II (IVS II): Valuation Bases Other Than Market Value	379
○ Major Problems of Existing Valuation Practices in China	385
○ Some Recommendation about Existing Valuation Practices in China	394

Contents

○ Real Estate as an Investment	400
○ Marketing Retail Store Centers	408
○ The Demand for Housing	416
○ Evaluating the Property Tax	424
○ The Development and Building Process	432
○ Steps in Real Estate Decision Making	440
 Glossary	 447

Part I

Resource (Land) Economics and Environmental Economics

-
- * Three Themes: Efficiency, Optimality and Sustainability
 - * Fundamental Issues in the Economic Approach to Resource and Environmental Issues
 - * Property Rights and Externalities
 - * Property Rights, Externalities, and Environmental Problems: Improper Rights and Imperfect Market
 - * Property Rights, Externalities, and Environmental Problems: Government Role and the Pursuit of Efficiency
 - * Introduction to Land Economics: Scope and Content
 - * Concepts of Land Economics
 - * Land Resources Supply and Demand
 - * The Valuation and Use of Land
 - * Farmland Preservation

Three Themes: Efficiency, Optimality and Sustainability

The three themes of the natural resource and environmental economics are efficiency, optimality and sustainability.^[1] In this paper, we briefly explain these themes, and then look at the emergence of the field of study which is the economic analysis of natural resources and the environment. We then identify some of the key features of that field of study.

Three themes

The concepts of efficiency are used in specific ways in economic analysis.^[2] One way of thinking about **efficiency** is in terms of missed opportunities. If resource use is wasteful in some way then opportunities are being squandered; eliminating that waste (or inefficiency) can bring net benefits to some group of people. An example is **energy inefficiency**. It is often argued that much energy is produced or used inefficiently, and that if different techniques were employed significant resource savings could be gained with no loss in terms of final output.^[3]

This kind of argument usually refers to some kind of technical or physical inefficiency. Economists usually assume away this kind of inefficiency, and focus on **allocative inefficiencies**. Even where resources are used in technically efficient ways,^[4] net benefits are sometimes squandered. For example, suppose that electricity can be, in technically efficient ways, generated by the burning of either some heavily polluting fossil fuel,^[5] such as gas. Because of a lower price for the former fuel, it is chosen by profit-maximizing electricity producers.^[6] However, the pollution results in damages which necessitate expenditure on health care and clean-up operations. These expenditures, not borne by the electricity supplier, may exceed the cost saving that electricity producers obtain from using coal.

If this happens there is an inefficiency that results from resource allocation choices even where there are no technical inefficiencies.^{【7】} Society as a whole would obtain positive net benefits if the less polluting alternative were used. Such allocative inefficiencies will be pervasive in the use of natural and environmental resources in pure market economies.^{【8】} A substantial part of environmental economics is concerned with how economies might avoid inefficiencies in the allocation and use of natural and environmental resources.^{【9】}

The second concept—optimality—is related to efficiency, but is distinct from it. To understand the idea of optimality we need to have in mind:

- a. a group of people taken to be the relevant ‘society’;
- b. some overall objective that this society has, and in terms of which we can measure the extent to which some resource-use decision is desirable from that society’s point of view.

Then a resource-use choice is socially optimal if it maximizes that objective given any relevant constraints that may be operating.^{【10】}

The reason efficiency and optimality are related is that it turns out to be the case that a resource allocation cannot be optimal unless it is efficient. That is, efficiency is a necessary condition for optimality.^{【11】} This should be intuitively obvious; if society squanders opportunities, then it cannot be maximizing its objective (whatever that might be). However, efficiency is not a sufficient condition for optimality^{【12】}; in other words, even if a resource allocation is efficient, it may not be socially optimal. This arises because there will almost always be a multiplicity of different efficient resource allocations, but only one of those will be ‘best’ from a social point of view.^{【13】} Not surprisingly, the idea of optimality also plays role in economic analysis.

The third theme is sustainability. For the moment we can say that sustainability involves taking care of **posterity**. On first thinking about this, you might suspect that, given optimality, a concept such as sustainability is **redundant**. If an allocation of resources is socially optimal, then surely it must also be sustainable? If sustainability matters, then presumably it would enter into the list of in achieving optimality. Things are not quite so straightforward. The pursuit of optimality as usually considered in economics will not necessarily take adequate care of posterity.^{【14】} If taking care of posterity is seen as a moral obligation, then the pursuit of optimality as economists usually specify it will need to be considered by a

sustainability requirement.

The emergence of resource and environmental economics

We now briefly examine the development of resource and environmental economics from the time of the industrial revolution in Europe.

Classical economics: the contributions of Smith, Malthus, Ricardo and Mill to the development of natural resource economics

While the emergence of natural resource and environmental economics as a distinct sub-discipline has been a relatively recent event, concern with the substance of natural resource and environmental issues has much easier antecedents.^{【15】} It is evident, for example, in the writings of the classical economists, for whom it was a major concern. The label ‘classical’ identifies a number of economists writing in the eighteen and nineteen centuries, a period during which the industrial revolution was taking place (at least in much of Europe and North America) and agricultural productivity was growing rapidly. A recurring theme of political-economic debate concerned the appropriate institutional arrangements for the development of trade and growth.^{【16】}

These issues are central to the work of Adam Smith (1723-1790). Smith was the first writer to systematize the argument for the importance of markets in allocating resources, although his emphasis was placed on what we would now call the dynamic effects of markets. His major work, *An Inquiry into the Nature and Causes of the Wealth of Nations* (1776), contains the famous statement of the role of the ‘invisible hand’.^{【17】}

But it is only for the sake of profit that any man employs a capital in the support of industry; and he will always, therefore, endeavor to employ it in the support of that industry of which the produce is likely to be of the greatest value, or to exchange for the greatest quantity, either of money or of other goods.

As every individual, therefore, endeavor as much as he can both to employ his capital in the support of domestic industry, and so to direct that industry that its produce may be of the greatest value; every individual necessarily labors to render the annual revenue of the society as great as he can. He generally, indeed, neither intends to promote the public interest, nor knows how much he is promoting it ... he is, in this as in many other cases, led by an invisible hand to promote an end which was no part of his intention ...

... By pursuing his own interest he frequently promotes that of society more effectively than when he really intends to promote it.

This belief in the **efficacy** of the market mechanism is a fundamental organizing principle of the policy prescriptions of modern economics, including resource and environmental economics. ^[18]

Resource and environmental economics

A central interest of the classical economists was the question of what determined standards of living and economic growth. ^[19] Natural resources were seen as important determinants of national wealth and its availability. When to this were added the assumptions that land was a necessary input to production and that it exhibited **diminishing returns**, the early classical economists came to the conclusion that economic progress would be a **transient** feature of history. ^[20] They saw the inevitability of an eventual stationary state, in which the prospects for the living standard of the majority of people were **bleak**. ^[21]

This thesis is most strongly associated with Thomas Malthus (1766-1834), who argued it most forcefully in his *Essay on the Principle of Population* (1798), giving rise to the practice of describing those who now question the feasibility of continuing long-run economic growth as ‘neo-Malthusian’. For Malthus, a fixed land quantity, an assumed tendency for output per capita to fall over time. There was, according to Malthus, a long-run tendency for the living standards of the mass of people to be driven down to a subsistence level. At the subsistence wage level, living standards would be such that the population could just reproduce itself, and the economy would attain a steady state with a constant population size and constant, subsistence-level, living standards.

This notion of a steady state was formalized and extended by David Ricardo (1772-1823), particularly in his *Principles of Political Economy and Taxation* (1817). Malthus’s assumption of a fixed stock of land was replaced by a conception in which land was available in parcels of varying quality. ^[22] Agricultural output could be expanded by increasing the intensive margin (exploiting a given parcel of land more intensively) or by increasing the extensive margin (bringing previously uncultivated land into productive use). ^[23] However, in either case, returns to the land input were taken to be diminishing. ^[24] Economic development then proceeds in such a way that the ‘**economic surplus**’ is appropriated increasingly in the form of

rent, the return to land, and development again converges toward a Malthusian stationary state.【25】

In the writings of Johan Stuart Mill (1806-1873) one finds a full statement of classical economics at its culmination.【26】 Mill's work utilizes the idea of diminishing returns, reflecting the relaxation of the constraints of the extensive margin as colonial exploitation opened up new **trenches** of land, as fossil fuels were increasingly exploited, and as innovation rapidly increased agricultural productivity.【27】 The concept of a stationary state was not abandoned, but it was thought to be one in which a relatively high level of material prosperity would be attained.【28】

Foreshadowing later developments in environmental economics, and the thinking of conservationists, Mill adopted a broader view of the roles played by natural resources than his predecessors. In addition to agricultural and **extractive** uses of land, Mill saw it as a source of **amenity values** (such as the intrinsic beauty of countryside) that would become of increasing relative importance as material conditions improved.【29】

Neoclassical economics: marginal theory and value

A series of major works published in the 1870s began the replacement of classical economics by what subsequently became known as 'neoclassical economics'.【30】 One outcome of this was a change in the manner in which value was explained. Classical economics saw value as arising from the labor power embodied (directly and indirectly) in output, a view which found its fullest **embodiment** in the work of Karl Marx. Neoclassical economists explained value as being determined in exchange, so reflecting preferences and costs of production.【31】 The concepts of price and value ceased to be distinct.【32】 Moreover, previous notions of absolute scarcity and value were replaced by a concept of relative scarcity, with relative values (prices) determined by the forces of supply and demand.【33】 This change in emphasis paved the way for the development of **welfare economics.**

At the methodological level, the technique of marginal analysis was adopted, allowing earlier notions of **diminishing returns** to be given a formal basis in terms of **diminishing marginal productivity** in the context of an explicit production function.【34】 Jevons and Menger formalized the theory of consumer preferences in terms classical economic analysis【35】 led to an emphasis on the structure

of economic activity, and its allocative efficiency, rather than on the aggregate level of economic activity. Concern with the prospects for continuing economic growth receded, perhaps reflecting the apparent inevitability of growth in Western Europe at this time. Leon Walras developed neoclassical General Equilibrium Theory, and in so doing provided a rigorous foundation for the concepts of efficiency and optimality that we employ extensively in this text. Alfred Marshall was responsible for elaboration of the **partial equilibrium** supply-and-demand-based analysis of price determination so familiar to students of modern microeconomics. A substantial part of modern environmental economics continues to use these techniques as tools of exposition.

We remarked earlier that concern with the level (and the growth) of economic activity had been largely ignored in the period during which neoclassical economics was being developed. **Economic depression** in the industrialized economies in the inter-war years provided the backcloth against which theory of income and output determination. The Keynesian agenda switched attention to aggregate supply and demand, and the reasons why market economies may fail to achieve aggregate levels of activity that involve the use of all of the available inputs to production. Keynes was concerned to explain, and provide remedies for the problem of persistent high levels of unemployment, or recession.

This direction of development in **mainstream economics** had little direct impact on the emergence of resource and environmental economics.^[36] However, Keynesian '**macroeconomics**', as opposed to the **microeconomics** of neoclassical economics, was of indirect of importance in stimulating a resurgence of interest in growth theory in the middle of the twentieth century, and the development of a neoclassical theory of economic growth. What is noticeable in early neoclassical growth models is the absence of land, or any natural resources, from the production function used in such models.^[37] Classical **limits-to-growth** arguments, based on a fixed land input, did not have any place in early neoclassical growth modeling.^[38]

The introduction of natural resources into neoclassical models of economic growth occurred in the 1970s, when some neoclassical economist first systematically investigated the efficient and optimal depletion of resources. This body of work, and the developments that have followed from it, is