



北京林业大学经济管理学院

“英才计划”出版工程

编委会主任：陈建成

主编：温亚利 张卫民

京津风沙源治理 生态工程绩效评估研究

RESEARCH OF EVALUATION ON PERFORMANCE OF BEIJING-TIANJIN
SANDSTORM SOURCE CONTROL PROJECT

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中国林业出版社



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出版说明

Publication Introduction

为加强学院科研团队建设，培养经济管理青年英才，扩大学院学术交流和学术影响，产出高水平标志性成果，促进学院重点学科与基础学科的协调发展，全面提升学院整体学术竞争力和影响力，北京林业大学经济管理学院制定了“英才计划”，该计划由“创新团队工程”、“出版工程”、“奖励工程”和“论坛工程”四个建设项目组成。

“英才计划”出版工程是对学院教师完成的，以农林经济管理学科领域为主、包括学院其他学科领域中的具有重要理论意义或重大应用价值及前景，或具有独到见解或新颖体系，对科学发展有重要作用的专著出版提供资助，目的是鼓励学术创新、传播学术思想、加强学术交流、繁荣学术研究、促进学术研究更好地服务社会。

“英才计划”出版工程得到了北京东方园林股份有限公司副总经理梁明武、湖南省汨罗市长江铜业有限公司董事长余方然以及中国林业出版社的大力支持，特此鸣谢！

School of Economics and Management(SEM) of Beijing Forestry University (BFU) launched Cultivating Talents Programs including Innovation Team Project, Publication Program, Award Program and Forum Project, which aims to enhance the research team of school, to cultivate young faculties in economics and management to output high level benchmark achievement.

Cultivating Talents Program-Publication Program provide support to manuscript with significance or critical application value or prospective, or with original idea or innovative system mainly agro-forestry economics and management field and other fields completed by school faculty members

Publication Program acknowledge the great support of Mr. Liang Mingwu (Vice president of Beijing Oriental Garden Shares Co. Ltd), Mr. Yu Fangran (Chairman of Changjiang Copper Product Co. Ltd in Miluo city) and China Forestry Publishing House.

北京林业大学经济管理学院
“英才计划”出版工程编委会
2011年5月10日

序 言

多年来,北京林业大学经济管理学院以建设和培育国家重点学科——林业经济管理学科为目标,抢抓机遇,深化改革,瞄准学科发展前沿,凝聚全院师生智慧,激发一切可利用资源的活力,团结一致,与时俱进,精思厚德,以人为本,科学发展,敢为人先,在教学、科研、人才培养和社会服务诸方面取得了显著进步。仅2010年,学院在高层次科研项目数量、科研经费总量、高质量学术论文数量、学生获奖层次、本科教学质量评价、专业学位建设等6方面实现突破,创学院历史最好成绩。2010年学院获得国家自然科学基金、国家社科基金和教育部人文社科基金等国家级课题7项;被SCI、EI和ISTP三大检索系统检索的论文共33篇;学院教师获全校理论课教学质量评价第一名;学院学生获“全国先进班集体”称号和58项省级以上学科竞赛奖;学院新增工商管理硕士(MBA)、应用统计硕士、会计硕士、国际商务硕士四个专业硕士学位授权学科点。这些成绩的取得,为学院的改革和发展奠定了良好的基础。

为了进一步推动学院在“十二五”期间快速发展,从2010年起,学院计划用五年时间,在全院推进“英才计划”建设项目。该计划包括“创新团队工程”、“出版工程”、“奖励工程”和“论坛工程”四个建设工程。“创新团队工程”旨在林业经济管理重点学科和其他具有优势和潜力的学科领域,以突出重点团队建设及领军人才培养、突出高水平标志性成果产出为原则,组建学术研究团队,择优提供研究费用资助。“出版工程”旨在鼓励学术创新、传播学术思想、扩大学术影响,资助学院教师多出具有影响力的学术专著。“奖励工程”旨在引导和激励教师申报高层次科研项目、产出高水平学术成果,鼓励教师关心学院发展、积极投身学院教学和科研工作,对在科研、教学和学院发展中取得突出成绩的教师进行奖励。“论坛工程”旨在营造学术氛围、加强学术交流、凝聚学术智慧、扩大学术视野、提倡学术创新,举办各种形式的学术论坛。

“出版工程”作为“英才计划”的重要组成部分,其实施范围在兼顾学院各学科领域的基础上,适当向林业经济管理学科领域倾斜。众所周知,林业经济管理学科在国家生态建设、低碳经济发展及现代林业体系构建中承担越来越重要的人才培养及科学研究责任。北京林业大学林业经济管理学科作为全国同类学科中唯一的国家重点培育学科,在林业经济理论研究方面长期积累,形

成具有中国特色的林业经济管理学术体系，在林业经济管理学科发展，以及参与国家林业重大问题、前沿和热点问题研究中发挥了积极作用。为促进学科发展，提升学科服务于社会发展的水平，北林林业经济管理学科正努力开展林业经济理论系统研究，以及林业经济重大问题的持续研究，尝试对中国林业经济发展进行理论与实践的梳理和总结，更好地为中国林业发展发挥理论指导作用。

“英才计划”出版工程项目将系统、全面地向社会介绍北林林业经济管理学科及相关学科领域最新的研究成果。主要涉及林业经济管理基础理论，林业经济重点和热点问题，国内外林业经济与政策比较，以及经济学、管理学和政策学最新研究成果在林业上的应用等方面。这些著作中既有青年教师在博士学位论文基础上形成的最新著作，也有教师最新科学研究成果。该出版工程不求研究内容及形式的系统性和完整性，更注重创新性及探索性；特别是对于新时期中国林业发展与社会经济可持续发展关系、林业在应对全球气候变化中的经济与生态环境政策、当前中国改革与发展中涉及林业与生态环境的关键经济政策问题的创新性研究给予高度重视。

这些著作大多是我校经管院中青年林业经济工作者的研究成果，在学术上可能还有不尽完善之处，一些问题在学术界可能也有不同观点，我以为，实施该出版工程的根本目的是繁荣中国林业经济管理研究，鼓励学术创新，勇于探索林业经济重大问题，更好地为中国林业经济发展服务，同时使有志于中国林业经济研究的广大中青年林业经济工作者有机会发表自己的成果，与学术界交流、沟通和争鸣，提升他们的学术水平，为中国林业发展奠定人才基础。

北京林业大学校长

宋维明

2011年5月16日

Foreword

Over the years, School of Economics and Management (SEM) of Beijing Forestry University (BFU) has made a great progress with an aim of building and fostering the national key discipline - forestry economics and management. We seize the opportunity, deepen the reform, aiming at the development of frontier subjects and gather all the wisdom and inspire all available resources and energy of teachers and students. We realize a scientific development, going forward with the times and people-oriented in teaching, research, personnel training and social service. In 2010, SEM got a breakthrough of history because we got 7 major projects from National Natural Science Foundation project, the National Social Science Fund and the Ministry of Education, Humanities and Social Science Fund and other national projects. About 33 papers were cited by SCI, EI and ISTP, with students winning the National Advanced Course Collective and more than 58 provincial level of academic competition awards. Four new programs of graduate studies were approved including Master of Business Administration (MBA), Master of Applied Statistics, Master of Accounting, Master of International Business. All the above achievements have laid a good foundation for the reform and development of SEM.

In order to further promote the development of college in the Twelfth Five-Year Period, from 2010, the college plans to use five years to promote Cultivating Talents Programs. The plan includes Innovation Team Project, Publication Program, Award Program and Forum Project. Innovation Team Project aims to focus on economic management in forestry and other disciplines which have advantages and potentials to highlight the building of the key leader in team and personnel training, highlighting the high level output of the principle of the landmark achievements and provide funds to the formation of research teams in the selection of the best research. Publication Program is to encourage academic innovation, disseminate of academic thinking, and expand academic impact of SEM by funding the publication of academic achievements made by teachers. Award Project aims to guide and encourage the teachers to apply for high-level scientific research projects, and academic achievement of high level, encourage teachers to care about development of the institute by taking an active part in university teaching and research work. Forum Project aims to create academic atmosphere, strengthen academic exchanges and combine academic intelligence by expanding academic horizons and holding various forms of academic forums.

Publication Program is an important part of Cultivating Talents Programs, which will put emphasis on economic management disciplines with the scope of all various disciplines in SEM. As we all know, forestry economics and management assumes an

increasingly important responsibility for personnel training and scientific research in the national ecological construction, low-carbon economic development and construction of modern forestry system. Forestry economics and management of BFU, as the only nation greatly supported in all similar universities, has formed an academic system of the forestry economy with Chinese characteristics with long-term accumulation, and played an active role in the development of economic management disciplines and participation in national forestry major issues and hot issues of frontier. To promote academic development and enhance academic services to the community, economics and management disciplines of BFU are working to carry out systematic study on forestry economic system theory and continuous study on major forestry economics issues, trying to summarize and sort out the Chinese forestry economic development in both theory and practice to play a better role in guiding the development of forestry in China.

Publication Program will make a comprehensive introduction of the latest achievements in forestry economics and related disciplines to the society, including forestry management based on economic theory, economic priorities and hot issues in forestry, domestic and international comparison of forestry economics and policy, as well as economics, management and policy studies on the latest academic achievements in the forestry aspects of the application. All of these works include the latest work based on doctoral thesis of young teachers and the latest scientific research of teachers of SEM.

The publication does not seek a systematic integrity in the content and form, just to put more on innovative and exploratory research, particularly focuses on the relationship of forestry development in new period and sustainable economic and social development, including the global climate change in response to the economic and environmental policies, China's current reform and development related to forestry and ecological environment, etc.

These works are mostly works of young research workers in forest economics of SEM of BFU. They may not be quite complete and there may be different point of view in the academia, but our purposes are to make the research of forestry economics more prosperous, encourage academic innovation, the courage to explore major issues of forestry economy and better economic development of China's forestry services, which will give chances to young researchers in forestry economics to publish their achievements, and push the exchanges and communication and contention to improve their academic standards for laying a base of talents for forestry development in China.

President of Beijing Forestry University

Song Weiming

May 16, 2011

前言

为了遏制北京及周边地区土地沙化趋势,改善京津及周边地区生态环境,履行《联合国防治荒漠化公约》,2000年6月,我国开始试点京津风沙源治理工程,并于2002年在内蒙古、山西、河北、北京和天津5省(自治区、直辖市)的75个县(旗、市、区)范围内全面启动。工程实施的目的在于通过植被保护、植树种草、退耕还林、小流域及草地治理、生态移民等措施,优化首都及治理区生态环境,促进该地区经济社会协调发展。作为一项投资额巨大的林业生态工程,京津风沙源治理工程的进展情况、治理效果及综合效益等,是社会各界和政府决策者最为关注的问题,需要进行绩效评估并跟踪评估。尤其是,目前正值工程一期结束,二期欲着手谋划之际,更需要对这些问题进行系统研究。

自2005年以来,研究团队受国家社会科学基金和中国发展研究基金会项目资助,对京津风沙源治理生态工程重点地区的5个县(区)——北京昌平区、河北沽源县、河北平泉县、内蒙古多伦县、山西浑源县进行了实地调查。在此基础上,依据京津风沙源治理生态工程的内容及特点,采用科学的方法和手段确定了京津风沙源治理绩效评估的方法及其指标体系,并以5个案例县(区)为重点评估对象,有重点有侧重地对京津风沙源治理工程执行情况和经济、社会、生态影响进行了较为全面的综合评估。

本书是研究团队多年来对我国生态恢复问题和京津风沙源治理生态工程绩效评估研究的成果。主要包括四部分:①京津风沙源治理生态工程绩效评估研究进展;②评估方法选择、典型案例县和具体评估内容的确定;③针对不同案例县的工程关键治理内容和措施,重点进行河北沽源、北京昌平的退耕还林绩效评估,河北平泉的退耕还林及后续产业发展绩效评估,内蒙古多伦的生态移民效果评估和山西浑源的小流域综合治理效益评估;④在案例县评估基础上,总结和提炼京津风沙源治理生态工程实施中存在的主要问题,提出相应的政策建议。本书的主要参著人员有:王立群、王秋菊、刘小强、谷振宾、崔海兴、石春娜、李砾、赵丽娟、李岩、蒋晓丽。

衷心感谢国家社会科学基金、中国发展研究基金会对本研究的大力支持!感谢北京林业大学经济管理学院出版基金对研究成果出版的大力资助!

另外，研究团队在完成研究的过程中，特别是在实地调查阶段，得到了河北省沽源县、北京市昌平区、河北省平泉县、内蒙古自治区多伦县、山西省浑源县及河北省张家口市、北京市、山西省大同市等地林业局领导及专家们的热情支持，得到当地农户的大力配合，在此一并向他们致以最诚挚的谢意。

还要感谢北京林业大学经济管理学院统计系 2003 级、2004 级的苗壮、孙冰蕊、田冰、王月、张亮同学在实地调查中的参与和所付出的努力。

研究中，错误在所难免，希望广大同仁批评指正，不吝赐教！

生态工程是有期限的，但生态恢复、保护和产业发展是永久的。研究团队愿与从事这一领域的广大专家学者一起，不断努力，通过理论和实证分析，发现和深入研究我国生态恢复和保护过程中面临的各种问题，为完善相关政策、促进我国生态环境与社会经济协调发展提供依据和参考。

著 者
2012 年 5 月 30 日

Preface

China began to carry out Beijing-Tianjin Sandstorm Source Control Project in June 2000 as a pilot project and brought it into operation comprehensively in 75 counties(banner counties) of Beijing, Tianjin, Inner Mongolia, Shanxi and Hebei provinces and municipalities in 2002 in order to prevent the desertification of land in Beijing and its surrounding areas, improve ecological environment of Beijing and Tianjin and their neighboring regions, and perform The United Nations Convention to Combat Desertification. The objectives of this project are to improve ecological environment of Beijing and the project areas and to promote the coordination development of economy and society in this region through various measures such as vegetation protection, trees and grass plantation, farmlands conversion into forests, small watershed and grassland management, ecological migration and so forth. People from all walks of life and the decision-makers of the government pay close attention to the issues like the progress, governance effects and comprehensive benefits of this forestry ecological project with a huge amount of capital investment, so it is necessary to carry out the evaluation on its performance and to track it. Furthermore it is especially necessary to study those issues systematically at the time point when the first session of the project is finished at the moment and the second session is about to be planned.

Our research team, subsidized by National Social Science Fund and China Development Research Foundation, has taken field survey Since 2005 in five counties or districts of four provinces (including autonomous regions and municipalities) where are the key areas in carrying out Beijing-Tianjin Sandstorm Source Control Project. These counties or districts are Changping District of Beijing, Guyuan and Pingquan counties of Hebei Province, Duolun County of Inner Mongolia and Hunyuan County of Shanxi Province. Based on field survey and fully considered the content and characteristics of this project, the team determined the methods and its index system of evaluation on performance of Beijing-Tianjin sandstorm source controlling project by using scientific methods and approaches. The team sets five counties as focus examples to do the comprehensive evaluation on the project implementation and its effects on economy, society and ecology. The writers include Wang Liqun, Wang Qiuju, Liu Xiaoqiang, Gu Zhenbin, Cui Haixing, Shi Chunna, Li Li, Zhao Lijuan, Li Yan, Jiang Xiaoli.

This book is the research achievement of our team in the research field of our country's ecological restoration and evaluation on performance of Beijing-Tianjin Sandstorm Source Control Project over many years.

There are four parts in this book:

The progress in research of evaluation on performance of Beijing-Tianjin Sandstorm Source Control Project;

The selection of evaluation approaches, sample counties and specific evaluation items;

Focusing different evaluation on different sample counties according to different management measures, including evaluation on project performance of farmland conversion to forests in Changping District of Beijing and in Guyuan County of Hebei, the evaluation on project performance of farmland conversion to forests and development of follow-up industries in Pingquan County of Hebei, the evaluation on effects of ecological migration in Duolun County of Inner Mongolia and the evaluation on benefits of small watershed management in Hunyuan County of Shanxi;

Summarizing and bringing forward the main problems existing in the implementation of this project on the basis of the evaluation in sample counties and proposing relevant policy suggestions.

We appreciate greatly National Social Science Fund and China Development Research Foundation again for their great support. We sincerely thank School of Economics and Management, Beijing Forestry University for providing publishing fund.

Our team obtained great support from the officials and experts of Forestry Bureau in Guyuan and Pingquan County of Hebei, Changping District of Beijing, Duolun County of Inner Mongolia, Hunyuan County of Shanxi, the city of Zhang Jiakou, Beijing and Datong during the period of field investigation. The local peasants also cooperated with the team very well. Herein, sincere thankfulness to all of them.

Many thanks to the students Miao Zhuang, Sun Bingrui, Tian Bing, Wang Yue and Zhang Liang from grade 2003 and 2004 of the Statistic Department, School of Economics and Management in Beijing Forestry University for their attendance and efforts in field survey.

The corrections and comments on this book from colleagues and people concerned are all warmly welcomed.

The ecology restoration and protection and industrial development are permanent although the ecological projects can be finished within limited time. Our team is willing to work together with experts and scholars in this field to discover and study different problems lying on the path of ecology restoration and protection in-depth through theoretical and empirical analysis with continuous efforts so as to provide the foundation and references to better relevant policies and to promote coordination development of ecological environment and social economy.

Author

May 30, 2012

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第 1 章

导 论

京津风沙源治理生态工程的实施，源于我国日益严重的土地沙化和荒漠化问题。中华人民共和国成立以来，尤其是近十几年来，我国防沙治沙事业取得了可喜的成绩。据第三次全国荒漠化沙化监测，我国土地沙化状况发生了 3 个重大变化。一是沙化面积缩减。2000~2004 年，全国沙化土地面积净减少 6416 平方千米，由 20 世纪 90 年代后期年均扩展 3436 平方千米转变为年均缩减 1283 平方千米。二是沙化程度减轻。沙区植被明显增加，流动沙地、半固定沙地面积逐年减少，在沙化土地中的比重由 1999 年的 36.1% 下降到 2004 年的 33.9%。三是扩展区域减少。20 世纪 90 年代后期，全国有 19 个省份沙化土地面积减少，这次监测已有 27 个省份沙化土地面积在减少。这是重大的历史性转变。

但是，从全国土地沙化的总体情况看，防沙治沙形势依然相当严峻。全国沙化土地有 173.97 万平方千米，占国土面积的 18.1%，分布于全国 30 个省份的 889 个县(旗、区)，影响着近 4 亿人的生产和生活，每年造成的直接经济损失达 500 多亿元，严重制约着经济社会可持续发展。已经治理的沙化土地，生态状况仍很脆弱，特别在沙区，人口、资源、经济压力仍然巨大。虽然全国土地沙化趋势总体上得到遏制，但局部地区土地沙化仍在继续扩展。在全国现有的沙化土地中，具备治理条件的还有 50 多万平方千米。如果按现有的治理速度，需要几十年、上百年甚至更长时间才能完成治理。特别是下一步需要重点治理的沙化土地，沙化程度更重，自然条件更差，都是难啃的硬骨头。另外，全球气候变暖使得我国西北地区蒸发和干燥度都呈增长趋势，不仅威胁现有植被的存活，增加了恢复植被的难度，而且可能会造成干旱区范围进一步扩大、荒漠化更加严重。

土地沙化和荒漠化的直接后果之一是频繁发生的沙尘暴现象。近 50 年来我国发生沙尘暴的次数不断增加。20 世纪 50 年代共发生特大沙尘暴 5 次，60 年代 8 次，70 年代 13 次，80 年代 14 次，90 年代高达 23 次。每年因风沙危害造成的直接经济损失达 540 亿元，相当于 1996 年西北 5 省(自治区)国民生产总值的 3 倍。沙尘暴不仅严重影响了当地居民生活质量的改善和生活水平的提高，也影响了人民群众的切身利益和身体健康。到了 2000 年，仅仅从 3 月份到 4 月份我国华北地区就发生了 8 次强沙尘暴和 4 次扬沙天气，影响到内蒙古、宁夏、甘肃、