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地震灾区产业恢复与重建研究

——以四川汶川地震为例

王彬彬 / 著

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王彬彬，1978年10月生，浙江萧山人，中共党员，经济学博士。现为四川大学政治学院讲师，主要研究领域为区域经济理论与政策、区域产业组织与政策、资源环境与区域可持续发展、政治经济学。在CSSCI来源期刊等发表学术论文20余篇，人大复印报刊资料全文转载多篇。主持国家、省级社科研究项目多项，研究成果被四川省哲学社科成果要报多次刊载，并获得四川省第十四次哲学社会科学优秀成果三等奖、2010年度四川省环境保护科学技术三等奖等多项省部级奖励。

序

经济发展的前提是要有一个稳定的环境作为基础或约束条件，而在自然灾害等极端环境下研究经济运行、恢复和发展是一个重大挑战。自上世纪六十年代以来，个别学者开始关注自然灾害的影响及其防范措施，从工程技术措施向经济政策措施转变，逐渐形成了自然灾害经济的理论范式。其研究的领域主要集中在灾前和灾中阶段，主要有五个层次：一是灾害对经济的直接与间接影响；二是经济发展方式对灾害的影响；三是灾害与具体部门经济的相互关系；四是防灾的投入与产出、灾害的损失与补偿等灾害经济关系的运行；五是信息激励下的风险规避、微观主体的政策需求等防灾救灾机制。但是，如何统筹受灾地区的灾后重建和可持续发展，如何在生产恢复的基础上形成灾后产业中坚、提升灾区自我发展能力，值得理论界进一步深入研究，这也将为解开作为“自然过程”的灾后阶段这一自然灾害经济学“黑箱”提供突破口。

从现实来看，当前全球正处于地震等特大区域性自然灾害集中爆发的阶段，灾后恢复与重建是各国共同面临的重大课题。灾区经济社会的恢复和发展，应以提升“造血”功能为主，实现可持续发展。而产业正是培育自我发

展能力的载体，是改善灾区生产生活条件、实现公平正义和持续发展的经济动力之源。灾区产业恢复与重建是一个综合多个专业、多种学科、不同思维、兼顾经济、社会、生态的系统工程，也是快速重建、高速增长、持续发展错落有序又要相互统一的矛盾体，亟须在理论和实践上有新的探索。弟子王彬彬所著的《地震灾区产业恢复与重建研究——以四川汶川地震为例》以灾区这一特殊经济区域为研究对象，将产业选择与布局理论应用于特殊环境下的产业发展，对灾后产业重建和发展的理论和方法进行了初步探索。

本书集中研究的汶川大地震是新中国成立以来强度最大、损失最惨重、波及范围最广而且援救最困难的一次地震。自地震发生之后，至今已有两年多，在全国各省区的支援下，灾区的恢复与重建工作取得了巨大的成功。可以说，汶川地震灾区产业恢复与重建是转变经济发展方式、统筹政府体制和市场机制协同推进的一次重建，具有标志性意义和示范效应。然而，相对于四川省其他区域，地震灾区的发展仍然要面临余震形成的不确定性环境。如何在防灾过程中科学、高效地推动灾后发展成为必须解决的现实问题。省内外的广大科研工作者和实际工作部门的同志联手调查研究，提出了有很强针对性和可操作性的对策，为灾后重建提供了有力的理论支撑和决策依据。

展望未来，党的十七届五中全会通过《中共中央关于制定国民经济和社会发展第十二个五年规划的建议》，指出“坚持把经济结构战略性调整作为加快转变经济发展方

式的主攻方向”，对灾区“十二五”期间经济社会发展提出了更高要求。汶川地震四川灾区处于四川经济社会的腹心地区，临近全川最重要的产业带、城市群、交通枢纽、出省通道，区位优势决定了灾区重建的辐射范围、带动能力、乘数效应，灾区重建可以为全省发展提供新的机遇。要抓好这一机遇，科学构建适合灾区资源环境和发展要求的产业体系，依据承载能力、经济流向优化产业空间布局，以灾区产业结构调整带动全省产业结构调整，以灾区产业优化布局影响全省产业优化布局是关键。

王彬彬博士长期从事区域经济、产业经济和环境经济研究，踏实认真、创新进取，取得了一系列科研成果。他主持了国家社科基金项目《提升西部地区自我发展能力战略研究》、四川省哲学社会科学“十一五”规划课题《汶川地震灾后四川三次产业协同发展研究》，他的第一本学术专著也即将面世，作为他的导师，我感到由衷的欣慰。本书以汶川地震四川灾区为例，坚持“以人为本、尊重自然、统筹兼顾、科学重建”的重建理念，研究在多目标任务下推进产业恢复与重建的思路与途径。本书以系统论思维，从“经济—环境”作用的一般框架出发，结合灾区的区域经济特征，从灾情、区情、民情出发，构建“环境突变—经济适应性调整—反馈环境”的经济学逻辑；在评价产业损失及其影响的基础上，阐述产业结构的适应性调整、产业布局的适应性调整，并提出相应的发展思路，为四川灾区产业重建提供一定的理论依据和现实参考，是一部具有学术价值和实践价值的学术著作。这本著作是王彬彬学术生涯的开端，希望他在未来的学术道路上继续努

力，不断进取，取得更大的成就。

四川大学教授、博士生导师

邓 玲

2010年10月20日于成都

摘 要

汶川大地震是新中国成立以来强度最大、损失惨重、波及范围最广而且援救最困难的一次地震。高标准、重民生、可持续的灾后重建凝聚了灾区人民乃至全国人民的迫切愿望和党中央、国务院的殷切关怀。而产业重建正是改善灾区生产生活条件、实现公平正义和持续发展的经济动力之源。

灾后产业重建是一个综合多个专业、多种学科、不同思维、兼顾经济、社会、生态的系统工程，也是快速重建、高速增长、持续发展错落有序又要相互统一的矛盾体。然而，经典的主流经济理论尚未建立起系统的灾后产业重建的理论分析架构，现有的研究或是停留在理念和思路阶段，灾后产业重建亟须在理论和实践上有新的探索。

本书坚持“以人为本、尊重自然、统筹兼顾、科学重建”的生态文明重建理念，贯彻《汶川地震灾后恢复重建条例》及系列文件的有关精神，在对都江堰、彭州、广汉、绵竹、汶川、平武、宝兴、广元市区、绵阳市区等受灾地区进行实地调研，对四川省发改委、四川省经委、四川省统计局、四川省社会科学院等 10 多个省、市、县部门进行资料调研，与伦敦大学学院、日本神户大学、日本名古屋大学、北京交通大学、中国科学院成都山地所等机构进行学术交流，并参与国家建设部、清华大学、四川省社科联等学术研讨会的基础上，综合各方观点、成果，形成灾后产业选择、重建、布局的初步结论。

第一，本书总结了汶川地震的时空特征，概述了汶川地震的基本特征、发生机制、主要破坏及其主要原因，初步界定了汶川地震四川灾区的空间范围。本书在对可持续发展理论、产业结构理论、

产业布局理论、灾害经济理论及灾后产业重建的相关文献和观点进行述评的基础上,分析国内外灾后产业重建经验,并引入“经济—环境”的一般作用机理,构建了“灾前经济常规运行—突变与损失—适应性调整与可持续发展”的研究逻辑,将灾后产业重建纳入经济学分析框架。

第二,按照区域经济学学科的分析范式,沿着“环境—经济—产业”的线索,从地理资源基础、区域经济基础和灾前发展态势三个方面研究了汶川地震四川灾区震前产业发展状况,认为该区域具有以下特征:一是坐落在由三条大断裂和两个条带交错构成的地质带上,是四川省乃至全国地震灾害最严重、活动最频繁的区域;二是已形成以成德绵为中心、公铁空为网络、广雅阿为腹地的区域经济系统;三是成德绵是四川工业最密集、产业最高级、竞争优势最强的区域,其中成都处于工业化后期到后工业化阶段,德阳、绵阳、阿坝处于工业化中期,广元处于工业化初期阶段,雅安处于工业化初期向工业化中期转变阶段。

第三,对灾害直接经济损失和间接经济损失进行了界定,比较分析了工程意义上的经济损失与经济意义上的经济损失的区别,综述了不同评估方法在历次自然灾害中的实证应用,并对农业、化工、装备制造、能源、食品、建材、冶金、旅游、交通运输、保险、金融、房地产、通讯等重点产业的损失情况进行了经验评估,对生态等产业间接损失进行了分析。论文认为汶川地震对四川经济影响十分深远,且在不同经济基础的地区之间差异明显。从短期来看,当地产业受损严重,招商引资和承接产业转移受影响,电力等基础设施保障不足;但从长期来看,产业重建有利于产生新的需求,形成产业发展的政策优势,为部分产业发展提供广阔的市场空间。

第四,对比研究了灾后产业重建的国际经验及其阶段性特征,梳理总结了汶川地震后国家出台的《条例》、《意见》、《措施》等重大法规政策,指出汶川地震救灾重建选择了一条有中国特色的救灾重建的战略路线,这条路线从时序上可以分为抢险救灾、恢复重

建和可持续发展三个阶段，并沿着“法规保障—框架规范—宏观指导—政策协调—措施配套”的方向分阶段逐步推进。同时，本书在综合研究国内外经济形势的基础上，提出了四川灾区产业重建和可持续发展的战略任务。

第五，在分析灾后产业选择的特点、原则的基础上，构建了灾后产业选择模型，认为灾后产业再选择不同于一般条件下的产业选择，它不完全是关于主导产业的选择，而是在整个产业体系中具有突出影响力和感应度的基础产业、支柱产业、战略产业的全面选择。灾后产业再选择不仅受到产业升级、产业转移的影响，还要系统审视产业的需求效应、带动效应。据此，本书分别从演化发展、外部冲击、内生恢复、重建效率四个视角遴选甄别出绿色食品、磷化工、新型建材、机电设备、电子信息、新能源、旅游等七大重点产业，并提出这些产业恢复和发展的基本思路。

第六，本书认为灾后产业布局是市场自觉形成与政府主导推动的协调过程。据此，本书从灾后产业布局的微观机制和中观机理入手，通过分析四川灾区承载功能，结合四川省情，展望发展远景，提出四川灾区“安全布局”、“调整布局”、“发展布局”的三重任务。本书认为，灾后产业布局既要突出主体功能，按照主体功能布局生产力，更要突出城市功能，构建灾区城市分工协作体系，克服长期以来四川城市经济“竞争有余、合作不足”的局面，形成“功能有补充、产业有分工”的整体格局。

第七，本书认为灾后产业重建的突破口是制度创新，但制度创新是一个分阶段变迁的过程。本书结合产业重建的阶段性任务研究逐步推进的制度体系，构建了企业援助、要素支撑、产业融资、转移补偿等机制框架，用以平稳启动、有序推进、不断深化产业重建；同时，提出要通过强化能力建设来实现四川灾区产业的可持续发展。

关键词：地震灾区；损失评估；产业选择；产业布局；可持续发展

Abstract

Wenchuan Earthquake is the quake that has made the greatest intensity, heavy losses, the broadest extent, and the hardest rescue since the founding of the People's Republic of China. Post-disaster recovery with high level, high regard for the people's livelihood, and sustainability is combined with the pressing desire of the people in the quake-hit area as well as the people of the whole country and the eager concern of the Central Committee and the State Council. The industry recovery is the impetus for the improvement of production and living conditions in the quake-hit area, the achievement of fairness and justice, and sustainable development in economy.

Post-disaster industry recovery is the system engineering that colligates multiple majors, multiple fields, different thoughts, and mixing of economy, society, and ecology and is also a contradiction of order of priority and mutual unification in rapid reconstruction, high speed improvement, and sustainable development. However, the classical mainstream economic theories did not build the theory framework for post-disaster industry recovery while the present study remains in idea and thought or in practice of manipulating or in single subject perspective or in collection of different viewpoints. Post-disaster industry recovery needs to be systematically made a great progress in theory and practice.

This thesis insists on ecological awareness and reconstruction idea of "People foremost, Respect nature, Overall consideration, Scientific recovery" and implements the concerning spirit of *Post-disaster Recon-*

struction Regulation of Wenchuan Earthquake and series of documents. After on-site investigating and studying the quake-hit area including Dujiangyan, Pengzhou, Guanghan, Mianzhu, Wenchuan, Pingwu, Baoxing, Guangyuan City, and Mianyang City, studying data provided by more than 10 provincial and municipal departments including Sichuan Development and Reform Commission, Sichuan Economic Commission, Sichuan Bureau of Statistics, and Sichuan Academy of Social Sciences, exchanging academic activities with the institutions including College of University of London, Kobe University of Japan, Nagoya University of Japan, Beijing Jiaotong University, Chengdu Institute of Mountain Disaster and Environment of China Academy of Science, and attending the academic seminars provided by the Ministry of Construction, Tsinghua University, and Sichuan Federation of Social Sciences Circle, etc. , I give an elementary conclusion regarding post-disaster industry selection, reconstruction, and arrangement with the all sides' viewpoints and achievements in this thesis.

First of all, the thesis summarizes the temporal and spatial characteristics of Wenchuan Earthquake, outlines the basic characteristics, occurrence mechanism, main damage as well as leading cause, and preliminarily defines the spatial scale of Sichuan quake-hit area in Wenchuan Earthquake. The thesis, based on the correlative documents and viewpoints review in sustainable development theory, industry structure theory, industry layout theory, disaster economic theory, and post-disaster industry recovery, analyzes post-disaster recovery experiences in China and abroad, introduces "Conventional Economic-Environment Functional Mechanism", builds recovery logic of "Conventional Economic Operation Prior to Disaster-Mutation and Losses-Adaptable Adjustment and Sustainable Development", and incorporates post-disaster industry reconstruction as part of economic analysis architecture.

Secondly, according to the analytical model of regional economics, the thesis studies the industry development situation of Sichuan quake-hit area in Wenchuan Earthquake prior to the earthquake in three aspects including geography resources basis, regional economics basis, and development situation prior to disaster by following up the clue of "Environment-Economy-Industry" and thinks that the area shows the characteristics as follows: 1, this area is located in the geologic zone with the crossing of three big fault zones and two belt and is the area in which there are the most serious disasters and the most frequent earthquakes for Sichuan and the whole country as well; 2, this area has created the regional economic system with the centre of Chengdemian, the network of highways-railways-aviation, and the hinterland of Guangyaa; 3, Chengdemian area has the most dense, modern industry and the most competitive advantage in Sichuan. In this area, Chengdu stages the period from the end of industrialization to the post industrialization, Deyang, Mianyang, and Aba stage the middle industrialization period, Guangyuan stages the period of the beginning of industrialization, and Yaan stages the period from the beginning of industrialization to the middle of industrialization.

Thirdly, the thesis defines the direct economic losses and indirect economic losses resulting from the disaster, compares and analyzes the differences between economic losses in industrial meaning and economic losses in economic meaning, summarizes the practical applications in all previous natural disasters with different evaluation methods, practically evaluates the losses in some key industries including agriculture, chemicals, equipment manufacturing, energy, foods, building materials, metallurgy, tourism, transportation, insurance, financing, realty, and telecommunication, and analyzes the indirect economic losses of ecological industry. The thesis thinks that Wenchuan Earthquake has made a

profound influence on Sichuan economic situation and the remarkable difference among the regions with different economic bases. In the short term, the local industries are terribly damaged, trade and investment promotion and industry transfer acceptance are affected, and power and basic facilities are in short supply; whereas in the long term, industry reconstruction can help come up with the new demand and the new policy advantage regarding industry development to provide a broad market space.

Fourthly, the thesis compares and analyzes foreign experience and phasic characteristics in post-disaster reconstruction, summarizes the major national regulations and policies including *Regulations*, *Opinions*, and *Measures* after Wenchuan Earthquake, and indicates that the disaster relief reconstruction for Wenchuan Earthquake comes up with a Chinese-style disaster relief reconstruction strategy route which can be divided into three stages in time sequence including rescues and disaster relief, reconversion and reconstruction, and sustainable development and can be gradually driven forward by stages along regulations guarantee-framework norms-macro guidance-policy coordination-supporting measure. Meanwhile, the thesis summarizes the economic situation in China and abroad to put forth the strategic mission regarding the industry reconstruction and sustainable development for Sichuan quake-hit area.

Fifthly, after analyzing the characteristics and principles of post-disaster industry reselection, the thesis builds a post-disaster industry selection model which thinks that post-disaster industry selection differing from industry selection under common condition is not exactly about leading industries but the selection for basic industries, pillar industries, strategic industries with outstanding influence and perception in the whole industry system. Post-disaster industry reselection is not only

affected by industry upgrade and transfer, but also requires the system to survey industry demand effect and driving effect. Accordingly, the thesis chooses 7 key industries including green foods, phosphorus chemicals, new building materials, mechanical and electric equipments, electronic information, new energy sources, and tourism from four angles of development and evolution, external strike, internal recovery, and reconstruction efficiency and puts forth these basic thoughts regarding industry recovery and development.

Sixthly, the thesis thinks that post-disaster industry layout is a coordinating process by self-conscious market formation and government leading promotion. Accordingly, the thesis starts with micro-mechanism and middle-mechanism of post-disaster industry layout to put forth three tasks for Sichuan quake-hit area including "safety layout", "adjusting layout", and "development layout" after analyzing supporting capacity of Sichuan quake-hit area, actual position in Sichuan, and the development prospect. The thesis thinks that post-disaster industry layout should emphasize on both main function as well as productive forces with main function layout and urban function to build the coordination system among the area cities, overcome the situation of "given to competition rather than coordination" in Sichuan urban economy, and form an integral structure with "function supplementary and industry division" .

Seventhly, the thesis thinks that the outbreak of post-disaster industry reconstruction is institutional innovation which is a changing process by stages. With the phasic tasks of industry reconstruction, the thesis studies the gradually advancing institution systems and builds the mechanism framework of industry assistance, factor supporting, industry financing, and transfer compensation to smoothly start, steadily advance, and constantly deepen industry recovery; meanwhile, the thesis

thinks that the sustainable development in Sichuan quake-hit area should be implemented by strengthening capacity construction.

KEY WORDS: *Sichuan Quake-hit Area; Losses Evaluation; Industry Selection; Industry Layout; Sustainable Development*