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As the awesome scale and character of economic growth, social development, and urbanization continues to progress, how do we confront the related social and environmental challenges?

SIIC believes that we share the solution already. It lies in each of our ability to learn from our environment and then choose how to adapt or transform it. By selecting an innovative planning methodology, technical and systematic planning become components of an integrated regional development program.

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SIIC, together with our partners, are proudly committed to developing a city, not just for China, but for the world.

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SIIC

每一块土地都是有生命的
THE LIVING LAND

进入21世纪，生态文明曙光在前，建设经济、社会和环境平衡发展的
新型生态城市成为人类的共同愿景。

我们相信，生态型现代化是中国城市可持续发展的必由之路。

IN THE 21ST CENTURY, THE IDEA OF AN "ECOLOGICAL
CIVILIZATION" WILL ALLOW HUMANKIND A COMMON VISION
FOR BUILDING ECONOMICALLY VIABLE, SOCIALLY HEALTHY,
ECOLOGICALLY FRIENDLY CITIES.

WE BELIEVE THAT ECOLOGICAL MODERNIZATION IS THE ONLY
WAY TOWARDS SUSTAINABLE URBANIZATION IN THE FUTURE.

重中之重



理查德·瑞杰斯特
美国著名生态城市
专家，国际生态城
市建设理事会副主
席

对于人类的未来，有些事情的重要性也许不相上下，但没有什么事情的重要性能和生态城市相提并论。

假如人类的行为有一天会使地球走向崩溃的边缘，而事实的确如此，起原因在于目前的资源消耗和废物产出都在急剧增加。这个世界正面临着全球变暖，低能源价格时代的形将终结，生物多样性的锐减等诸如此类的问题。

在那些容易忽视的问题中，最容易被忽视的是我们的城市、城镇、乡村建成环境的设计和规划。我们到底能不能把我们的城市建设成一个不但土壤肥沃、生物多样丰富，气候稳定，而且环境优美、天人和谐的地方？在中国的某些地方，人们正在积极努力去实现这样的目标，比如廊坊的生态城市项目。此项目在“政府统领，市场运作”原则指引下，对新型城市规划设计产生了需求，最终形成了对生态城市实体的设计要求。

首先，我们关注一下城市的重要性。我们经常听到这样的统计：“今年全球有超过一半的人口居住在城市”。虽然具体数字经常在变动，其原因是联合国收集的数据来自不同国家，而不同国家对城市构成的定义又不尽相同。但无论如何可以肯定的是，世界人口的90%或者更多都居住在城市、城镇、或者乡村，而所有这些人类居住地的规划设计可以分为两类：符合或者不符合生态要求。换句话说，生态城市的设计其实对于实际各种尺度的居住地类型的开发都有一定的联系，要是人类的所有居住地都按生态城市的标准进行设计，那可能就是使地球重新恢复并保持健康的解决之道。

其次，生态城市对于妥善健康地解决我们目前面临的诸多难题具有巨大潜在意义，但人们对这一事实又了解多少？现实情况也许是毫不知晓。2007年在巴厘岛召开的联合国气候变化大会上，人们就全球变暖问题的解决方案展开了激烈辩论，却没有任何人提及城市形态和城市设计这些最应该得到重视的相关内容，因此，对于大多数生态城市还蒙着一层神秘的面纱。当然，我们不可否认一些优秀的科学家和富有良知的人士、政治家在为解决世界面临的问题（如全球变暖）辛苦奔忙。然而，他们似乎也忽视了城市，这个人类有史以来的最大发明，和它们与全球气候变化影响之间的相关性。假如某类城市的二氧化碳排放巨大，我们可以通过生态的城市规划能将此类城市的排放量降低到只有原来的十分之一，这（对于全球变暖问题的解决）就是相当重要的信息。颠覆性地建造另一种城市，用这样的办法来永久解决目前的难题，对于人们来说这样的城市还是个新事物，甚至可能是个闻所未闻的新事物。人们一直以来习惯性地吧生态可持续性和城市对立起来，认为生态城市是个自相矛盾的概念。有城市就会有污染，但这绝不能模糊了严重污染和设计后轻微污染之间的界限，绝不能忽视了城市产生的污染并不一定只有排放后的环境污染、生活质量的损害。让它们进入生态系统，变“废”为宝的可能是存在的，它们可以和社会和谐并存。生态城市的设计理念的确使这种实现成为可能，可惜我们根本就没有留意（在城市规划上）我们完全可以比现在做的好的多。

第三，为什么我们在生态城市发展的问题上进展缓慢？生态城市在设计上以人而不是以机器为出发点，它对自然采取包容而不是排斥的态度，它像中国古代农作方式那样能够让有机物完全回收利用并肥沃土壤。但我一直不明白为什么如此美好的事物却没有像其它伟大的发明创造一样被人类开发出来。四十多年来，我和本领域的同仁们一起，一直在从事生态城市的设计，但直到最近，生态城市的建设才初现端倪。其规模之小，往往只是零星的建筑或仅限于城市的一小部分。审视欧洲古代城市的模式、中国传统紧凑型村落、以及那些将各种互助性服务紧密交织的地方，我们逐渐意识到：“生态的”人文形态其实广泛地存在于旧式的城市建设中。为什么我们没有早点从这些能够指引我们找到正

NOTHING MORE IMPORTANT

Richard Register, Famous American Expert in Eco-city Design and Planning ; Vice Chairman of International Eco-city Construction Council

There may be one or two things as important for humanity's future, but nothing is more important than ecocities.

If human beings are stressing planet Earth to the breaking point, and we are, it is because of our vast numbers and our enormous rates of consumption of resources and production of wastes in the process. This stands as something broadly accepted in a world of climate change, the coming end of cheap energy and collapsing species diversity on a global scale.

But what is most often missed is the design and layout of our built environment of cities, towns and villages. Could we build cities that actually enrich soils, promote biodiversity and stabilize climate while creating a more beautiful human environment than ever seen before and one harmonious with the natural world as well? That's the promise of ecocities and in China some of the most important efforts in exploring cities are underway in places such as Wanzhuang Eco-city Project in Langfang. There we see the strategy of "leading by government, operating by market" which means that there needs to be a design of the incentives to assist and enable the design of the physical thing itself, the physical city as an eco-city.

First, just how important are cities? We have been hearing for some years now that "this year more than half the people in the world will be living in cities". The figures keep shifting because the data gathered by the United Nations simply accepts and uses the various nations' wide ranging definitions of what constitutes cities. But what is important to notice is that probably 90% or more of us-almost all of us-live in either cities, towns or villages and at all those scales our built community can be either designed upon the foundation of ecological understanding or without it. In other words, eco-city design relates to practically all scales of development and, if it were applied across those scales would be a solution of sufficient power to preserve and restore the health of the whole planet.

Second, how well recognized is the fact that eco-city design holds this enormous potential for health and happy solutions to crucial problems? Practically not at all! We are dealing with something almost a complete secret when the United Nations Conference on Climate Change in Bali in December, 2007 fails to mention the largest things human being create when debating solutions to global heating. Not a word was said about city form or urban design. Certainly some of the world's best scientists and most conscientious citizens and politicians were doing their best in all the ways they normally go about their work. But somehow they all missed the connection between the design, layout, planning and building of the largest creations of our species-cities-and their impacts on climate. If one kind of city puts out massive quantities of CO₂, but a city built in a very different, ecologically informed way would put out one tenth as much, that is enormously important information. That building a different kind of city has this potential for good is simply an insight that is currently so new as to be almost unheard of. People have gotten used to the idea that an ecologically healthy city is an oxymoron, a self-contradiction. The fact that cities do pollute has completely obscured the fact that they can pollute much less, very much less by design-and perhaps the "waste" products of that better design could actually be used for benefit instead of cast off as damage to land, life and society. We have simply not been paying attention to building the best we possibly could.

Third, why haven't we been moving much more quickly toward eco-cities? I've been wondering why something that sounds so good- cities designed on the measure of the person, rather than the machine, cities designed to leave room for nature in all its glory, cities to enrich soil as is done in China in an older kind of agriculture that recycles organics thoroughly, have not been developed right along with all the other clever humans inventions. For more than forty years I've been working on ecological city design, and there have been others in the field too, but practically nothing until very recently has been built, and then on a small scale, as just a building here or there or a small part of city. Lately we have been recognizing healthy "ecological"

确方向的地方总结出（城市建设的）基本原则和技术手段？为什么直到最近人们才开始关注那些早就存在的城市生态形态和设计，并把它们组合成美丽的图画（如巴西的库利提巴）？本来，早在几十年前，甚至几百年前，我们就可以建设好生态城市，但现在，却正在规划东滩这个“将要成为的第一座（或者说接近第一的）生态城市”。

我们为什么行动迟缓？我想一方面是因为我们没有真实客观地看待问题，另一方面是没有充分发挥我们的想象力，总是在一知半解的时候就嘎然而止了。

先说为什么我们不能客观真实的看待问题。我们可以认为汽车是当代城市形态形成的主要影响因素之一，而且它是个灾难性的因素。要问有哪些理论依据可以证明汽车对城市的健康发展在本质上是有害的，我们只要看看这个东西就应该明了：论重量它是人体的30倍，论所占体积它是人体的60倍，论速度是步行的10倍。在城市中设计这么一个负荷过度的东西一直以来都是人们不愿正视的错误。想让城市变得健康的努力和人们对速度及跨越距离的冲动之间存在着冲突，而后者只有在低能源价格时代才具有可能性。而当我们在重新设计城市的时候，这些机器还会在城镇中喧嚣叫器，这是个大问题。

再说缺乏想象力和一知半解。有这么一个认识广泛存在于很多欧洲一流的城镇，并且在建筑和规划的课堂上被反复宣讲。该认识认为“城市化从来就不会有自然美”。然而为什么没有？谁说的没有？凭何种形式或设计说没有？为什么我们在此就没有发挥一下想象力？这一认识具体体现在很多亚欧古城的紧凑型“步行街道”，体现在完全没有植物、除了鸽子以外没有任何其它野生动物的广场和集市，体现在草坪占100%绿化面积而没有一棵本地植物的公园。这一认识是如此的源远流长而人们已经想当然地把它当成某种规律。不过我们最好在大自然因为遭到轻视而回击我们之间，发挥一下想象力，想想让自然融入我们的城市会不会更好，会不会让城市生活变得更加多姿多彩。

城市中，另一个值得我们思索的是“人的尺度”。“人的尺度”是一个较小空间概念（人可以展开活动的空间），通常不超过4-5层的高度。在中国以及其它任何大城市的人们对“人的尺度”的认识都更加现实一些。紧凑型、三维度、内部设施服务多样化的空间形式确实具有很多好处，如便于步行和单车出行，能源、土地、时间、材料投入和金钱都有很大程度的节省。认为“人的尺度”应该是小空间范畴不无道理，但这些小空间却是存在于一个更大的具有活力的空间范畴——城市里，后者——包含若干“人的尺度”的大范围空间，即城市，是人类的发明创造，但这个发明创造完全可以由不同于现今我们所看到的形式来表现。比如说，在一个便于步行、充满活力的城市中，建筑可以更高一些，露台之间可以用天桥连接，教堂尺度的内部人行通道，阳光灿烂的公共空间可以设计在小型水道的周围，本地的植物可以在高处为本地鸟儿提供栖身之所……

我经常看到人们在正确的道路上半途而废。比如说，现在的人们更注重废物回收，也愿意购买节能的汽车，但却偏要居住在距离上班地点和朋友很远的地方，不放弃驾车。他们的所作所为其实让城市的改变举步维艰，他们反对在现存的住宅区增加新的“密度”，抵制在住宅区提高服务和就业的多样性，坚持都市区域划分的功能单一性，从而加强了城市的片区分割，增加了城市对汽车的依赖和距离跨越对低能源价格的要求。但有幸的是，正在规划中的一些中国城市项目，比如东滩和万庄，“就近可达”的理念终于得到体现，即把人们在城市中各种可能需要的设施都设置在（和居住地）彼此接近的区域。这一理念在指日可待的未来，在低能源价格时代一去不复返的时候，将会成为全球城市规划的榜样。

就算这样，我们仍将继续追求完整的生态城概念。我们需要把问题想透彻，我们需要把所有相关的部分都联系起来审视问题，认识到更先进的汽车其实只会把城市变得更糟，因为它身上固有的各种无节制特征和反生态城市的本质永远都不会消失。现在我们应该充分发挥想象力，全面彻底地分析问题。只有我们不再妥协，摆脱半途而废的陋习，我们才会建造出不仅能够使土壤肥沃，生物多样性丰富，气候稳定，而且环境优美，人与自然和谐共处的城市。

patterns in the essence of a much older way of building cities, as we see in the model of old European cities, and traditional villages of compact design in China and around the world defining streets and bringing the full variety of mutual services close together. Why haven't we earlier extracted the basic principles and techniques from the many pieces that seem to indicate where we should be going? Why has only recently Curitiba, Brazil assembled enough pieces of good layout and design that people are beginning to bring the picture into focus? It would seem strange that Dongtan, now said to be the "first eco-city" could actually be the first or something close to a first when we could have been building right for decades or even centuries.

I think there is an answer to this puzzle and it is that we have not been looking at things in their true proportion and we haven't been exercising imagination fully. We stop thinking halfway to the answer.

Regarding proportionality, for example, the car is a key player in shaping contemporary cities-and disastrously. There is good theoretical basis for seeing the automobile as intrinsically extraordinarily damaging to urban health in simply noticing that the average car is approximately 30 times as heavy as the human body, ten times as fast and about 60 times as big in volume. Designing for something that overbearing in cities has been a mistake few are willing to face. Attempts at making cities healthier come up against desires for speed and bridging distances that have only been possible in an age of very cheap energy and machines that muscle their way across town while completely redesigning it. That's one big problem in the way.

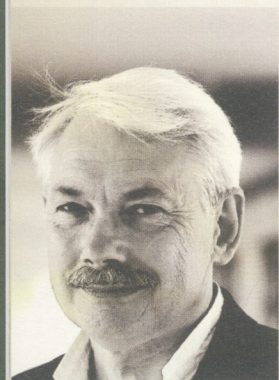
Another is a notion exemplifying lack of imagination and unwillingness to think through options more thoroughly. That problem exists even in many of the best of European towns and taught in architecture and city planning classes and that notion is that "good urbanism" doesn't have nature in it. Why not? Who says? In what form and design? Why the lack of imagination here? This idea, embodied in, for example, the compact "walking streets" of old Europe and Asia and the squares and plazas with no plants at all and only pigeons for wildlife, or parks with 100% grass and non-native plants is an idea that has been around for so long it is taken as some sort of rule without thinking through how a much better relationship to nature could be even better urbanism, enriching life urban life even more. It's time to wake up-before nature strikes back for our lack of attention to her.

Another notion is "human scale" in cities-meaning small and often tagged to a four or five story height limit-though many people in China and larger cities everywhere take the notion much more realistically. The benefits of compact, three-dimensional form with real diversity of facilities and services means people can walk and take bicycles and transit very easily, saving enormous amounts of energy, land, time, material investment and money. There is a core of truth to the notion of human scale as small scale but it exists in a dynamic with the larger scale, which is a human product too, and which can be designed very differently than we see generally expressed now. For example, the vital pedestrian city could be one with many taller buildings with terraces linked by bridges, with large sheltered interior passageways on the scale of cathedral interiors, with sunny public space arranged around small waterways and native plants attracting native birds to high places.

I've seen people move small steps in the right direction and stop, satisfied that they have arrived. They, for example, might recycle better and buy an energy saving automobile, but they still live a long way from work and their friends and drive anyway. I've seen them freeze up the city, opposing any new "density" in already existing neighborhoods or resist adding diversity of services and jobs to a neighborhood, clinging to the segregating single uses of zoning that helped the car scatter the city of car dependent and cheap energy dependent distances. But in projects now being planned in China, such as Dongtan and Wanzhuang, the notion of "access by proximity"-being close to a wide variety of what you need in the city is finally taken seriously and will be the world model for our fast approaching future when cheap energy is gone forever.

But even there, what is missing is going for the full spectrum eco-city now. We need to be thorough. We need to see all the parts connected and understand that to have a better car actually makes a worse city because it perpetuates the same anti-ecocity form with all its excesses. It is time for imagination to explore the whole notion in its fullness. Only then can we get beyond the compromises and the habits of stopping way short of... cities that actually enrich soils, promote biodiversity and stabilize climate while creating a more beautiful human environment than ever seen before and one harmonious with the natural world as well.

城市开发的新模式——整体化系统创新



彼得·海德
伦敦市长规划顾问，奥雅纳可持续发展总监

城市化是21世纪世界经济增长的主要推动力。为了持续获得低成本劳动力，国际制造业不断地向发展中国家转移，这些地区的城市化进程不断加快，并为全球输出大量低成本产品，使全球通货膨胀保持在较低水平。另外，新技术的使用也促进了产品效率的不断提高。当全球城市人口比例迅速跨越50%大关，越来越多人意识到不顾一切地发展经济让我们付出了沉重的代价。环境污染和资源枯竭导致支撑所有生物的生态系统持续恶化。尤其是排放到大气中的温室气体更造成了全球变暖和气候变化。

中国的城市化和经济发展速度在全球首屈一指。预计到本世纪中叶，中国将有近6亿人口由农民转化为城市居民，届时，随着经济的不断繁荣，他们对能源、资源的消耗量将大大增加。

胡锦涛总书记于2003年上任以来，中国对工业发展和城市化进程提出了新的思考，提出了以“和谐社会”，“构建珍惜资源，保护环境的社会”为导向的新政策，为全球发展指出了新方向。现在的中国已经明确地意识到“经济发展必须考虑对环境和社会的影响”。

胡锦涛总书记最近在讲话中说：人类进步的历史经验表明，我们绝不应以资源浪费和破坏环境为代价谋求发展。否则，人类不仅最终将为此付出高昂的代价，发展本身也会受到阻碍。我们的发展应该沿着科技含量高、经济效益好、资源消耗少、环境污染小、社会充分就业的方向进行。

随着中国社会向可持续发展方向的巨大转变，各地方政府在工作中新增了大量相关目标，新的法律法规也相继出台。例如：通过了允许私人参与可再生能源生产以及循环经济法律。此外，中国还拟建了多个生态城项目，并以此探索解决社会、经济、环境协调发展的办法。由上海实业（集团）建设的东滩生态城就是其中的首例。该项目位于长江三角洲上海北部的崇明岛，建成后将成为人口规模为50万、全部采用可再生能源的城市。上海实业（集团）联手英国奥雅纳公司（Arup），共同完成东滩生态城的战略总体规划和项目实施。2005年10月，在胡锦涛主席和布莱尔首相的见证下，双方签订进一步合作协议，明确了除东滩外的多个其他区域开发合作项目，这其中就包括廊坊市的万庄生态城项目。

启动

万庄占地80平方公里，现有15个村落和10万人口。利用连接京津的有利地理位置和政府新拟建的公路铁路交通，万庄项目将使这一地区成为为33万人提供就业、居住和服务的生态城市。

在开发商上海实业的要求下，全球著名的咨询公司，英国奥雅纳公司将承担新城市的规划，并为河北省城市开发树立新的典范。

目前，万庄项目1100公顷的启动区控规已经完成。此文将主要介绍为完成这项系统工程的所采用的具体实施办法。整个项目需要整体化系统创新，广泛运用各种技术手段，涉及不同文化背景的人，并要求分布在世界各地的各个团队为了完成这个伟大创新而共同努力。

上海实业和奥雅纳公司共同拟定了具体的工作范围，并在此基础上签订了合作协议。奥雅纳公司将主导项目规划，提供世界级的技术，并和当地设计机构及其它顾问人员一起在规定的时间内，高质量地完成一揽子既定工作任务。项目管理体系的建立和技术手段的选用是基于奥雅纳公司对城市开发的深刻理解，以及对可持续开发方式的独到认识。伦

A NEW PARADIGM OF URBAN DEVELOPMENT-TOTAL SERIAL INNOVATION

Peter Head, OBE FREng FRSA, Director Arup

Urbanisation is the main driving force behind the world's continuing economic growth in the 21st century. A continuous supply of low cost labour enables manufacturing to move to developing countries which are urbanising the quickest and the exporting of low cost products keeps inflation down around the world. New technology is also enabling product efficiency to be continuously improved. As the world moves past the point where more than 50% of the population live in cities there is a growing realisation that this headlong rush for economic boom is coming at a dreadful price. Environmental pollution and resource depletion are changing the planet's eco-system which supports all life. In particular the pumping of increasing volumes of greenhouse gases into the atmosphere is leading to warming and climate change.

The country that is now urbanising the fastest and is going through the strongest economic boom is China. By 2050, 600 million people will have moved from a rural life to a life in a city, where they will consume much more energy and resources as their economic prosperity grows. This is the largest and fastest migration of people in human history.

When Hu Jintao became president in 2003, the administration started to ask searching questions about the trajectory of China's industrial and urban development. Since then a new world leading policy emphasising "harmony between man and nature" and on "building a conservation oriented and environmentally friendly society" has emerged. China is now moving to ensure that "economic development must consider its impact on the environment and on society".

In a recent speech Hu Jintao said, "The historical experience of human progress shows that we should never seek development at the cost of wasting resources and damaging the environment. Otherwise mankind will have to pay a high price and ultimately the development itself will be threatened. Development should proceed along the road of high technological content, sound economic efficiency, low resource consumption, little environmental pollution and full use of human resources".

This massive change towards sustainable development is now being driven in China by the setting of a wider range of targets for regional government and the changing of laws, for example the private production of renewable energy and the circular economy law. Also China aims to create eco-city projects to show in practice how such an approach could meet these social, economic and environmental objectives. The first of these projects is the Dongtan Eco-city which has been planned by SIIC to be built on Chongming Island in the Yangtze River delta just north of Shanghai as home for up to 500,000 people and a city running entirely on renewable energy. SIIC formed a partnership with Arup to help them masterplan and deliver this project and the partnership was then extended in November 2005 at a signing ceremony in London, in the presence of Hu Jintao and prime minister Tony Blair, to cover other regional development projects in China.

The first of these new projects was the Wanzhuang Eco-city project at Langfang.

GETTING STARTED

This site, with an area of 80 square kilometres, has 15 existing villages which are home to 100,000 people. The proposal is to create jobs, homes and services for up to 330,000 people in the area, taking advantage of the strategic location between Beijing and Tianjin and the investment in new road and rail links.

Arup, the global consulting company, was appointed to carry out the planning of this new city by the developers SIIC with the aim to demonstrate the new paradigm of urban development in Hebei Province.

The programme required that a control plan for the first 1,100ha, with guidelines for implementation was produced. What I aim to do in this article is to describe the approach that was taken to this formidable task. This is a story about the management of total, serial innovation involving a huge range of skills, people from many different cultures and with teams located in many countries, but all with a common creative purpose.

The contract was signed on the basis of a clear and detailed scope of work which was worked up by Arup and SIIC. Arup were to lead the project, provide world class skills and to work with local design institutes and other consultants to deliver

敦和西雅图两座城市对这种理解和认识贡献卓著。

要实现成功的可持续性开发，或者说整体化的城市开发，首先要明确项目的驱动力和构成要素，然后把它们交给具有技术和经验的团队来完成。奥雅纳公司的方案是基于以下多个相互关联的方面。

- 居民及环境的健康
- 经济活力和个人繁荣
- 能源
- 住房
- 食物供给和城乡联系
- 交通
- 教育及文化
- 供水
- 材料及废弃物
- 生态足迹

规划的目的是提供城市基础设施，楼宇和社会服务，建成后一方面安置现有村民，另外也会吸引外来人口及投资，并引导他们以可持续的方式在此安居。要把方方面面棘手的问题纳入到新城市的规划之中需要特殊的管理架构。

可持续性城市规划的管理架构

虽然驱动城市可持续发展的管理架构在世界各地不断涌现，但从很多方面说，伦敦的开发模式走在了世界的前列。东滩的规划结构就借鉴了伦敦矩阵划分的做法，将城市开发首先划分成社会、经济（包括商业模式）、环境几个方面，然后是交通、环境建设、社会服务和公共事业等城市生活的主要实体构成元素。

项目规划初期的工作是一个探索研究、形成共识、确定目标的过程，并为总体规划提供驱动。为此，在万庄召开的为期一天的研讨会上，主要的投资方和全球知名的专家参加了会议，并通过了“可持续发展框架”。此框架包含了为解决社会、经济、环境、资源等方面问题所需要达到的各项宏观战略目标。和通常的做法一样，细节目标没有在此阶段明确，原因是为了在总体规划逐渐成形的过程中，给细节目标设定留下一定的灵活性。

奥雅纳公司和上海实业认为，可持续发展是为了使人民生活繁荣和全球生态系统之间达到更加和谐而进行的探索历程。对于和客户及投资方举行的每次会议，我们都当作是探索历程中的学习经历。万庄项目将按照统一协调的工作方式处理以上列举的各个方面问题，这些会议对于增强工作团队的责任感，明确开发方向，形成开发动力，都起到了推动作用。因此，我们（也把这种一体化的方法）叫做“整合的系统开发”。

包含不同文化背景，涉及多种技术手段的全球团队运作

奥雅纳参与这个项目的人员来自10个不同的国家，在8个不同的地方办公，在公司内部指定了35个成本中心。包括电子邮件、视频会议在内的电子通信手段是交流系统的核心，这个系统将所有的项目信息都集中到一个随时变化的项目数据库中。所有的文本都采用中英文双语书写，研讨会均使用同声翻译。研讨会在规划设计的初期阶段至少每周举行

well defined packages of work to an agreed timescale. The management system and approach were created from Arup's deep understanding of cities and the way sustainable development can be directed. Two cities in particular informed the approach, London and Seattle.

A critical starting point was to understand the drivers and components of successful sustainable development or 'integrated urbanism' and then to ensure they were all addressed by a team with the necessary skills and experience. ARUP's approach is based on the following interconnecting aspects:

- Human and Environmental Health
- Economic Vitality and Individual Prosperity
- Energy
- Housing
- Nutrition and Urban Rural Linkages
- Mobility and Access
- Communications
- Education and Culture
- Governance and Civic Engagement
- Water
- Materials and Waste
- Ecological Footprint

Planning aims to provide the physical infrastructure, buildings and social services which will remain home for the village population and attract new people and businesses to the area and give them the option and incentives to live in a sustainable way. Weaving all these critical issues into the planning of a new city requires a special management structure.

A MANAGEMENT STRUCTURE FOR PLANNING SUSTAINABLE CITIES

Management structures for driving sustainable development in cities are emerging around the world and in many respects London leads the way. The structure used for planning Dongtan uses the matrix approach that London uses of cross cutting themes of social, economic(including business case) and environmental aspects and then the main physical components of city life such as transport, the built environment, social services and utilities.

The starting point for the work was a process of evolving, agreeing and defining sustainable development objectives for the project that would drive the masterplan design. This was done by holding a one-day workshop in Wanzhuang into which key stakeholders and leading world experts were invited. The output from this day was a Sustainability Framework which contained broad strategic objectives under the headings of Social, Economic, Environmental and Resource issues. Detailed targets were not always identified at this stage, leaving some flexibility for target setting as the masterplan was evolved.

It the Arup/SIIC philosophy that sustainable development is a journey to discover a much better way of living a prosperous life in harmony with the planet's eco-system and we treat every meeting with clients and stakeholders as a learning experience for everyone on that journey. This enables a growing sense of ownership, direction and momentum to develop, underpinned by a holistic integrated approach, in which all key aspects listed above are being addressed. We call this integrated urbanism.

MULTI-CULTURE, MULTI-SKILL, GLOBAL TEAM WORKING

The Arup staff ,working on the project ,were born in 10 different countries, were located in 8 different offices and were assigned in 35 different cost centres within Arup. Electronic communication including e-mail and video-conferencing were the backbone of the tracked communication system with project data all being located on a single live project database. All written

一次。

由于项目涉及到各种不同的技术手段，所有的参与者都必须利用各自的丰富经验为设计中碰到的各种问题迅速提出解决方案。

团队成员包括经济学家、工程师、生态学者、社会学家、建筑师、城市规划师、金融家、商务模式专家、策划人员、公共事业及政策专家、艺术史学者、考古学家，他们考虑问题的方式不尽相同，因此要想把各方面意见合理地整合到开发设计中确实是一个非常具有挑战性的过程。只有凭借强有力的领导，对工作范围具有明确认识，才有可能逐步形成创新的设计。

博采众长的可持续性开发总体规划

要想迅速高效地完成总体规划并达到一系列既定目标，必须创造性地建立相应的驱动机制，才能有效地集思广益，博采众长，形成对可持续开发具有价值的成果。这既是在城市规划中形成的良性循环的成果，也是对全世界城市研究和经验的总结。

一直以来，世界城市在人居、环境、资源等方面却不是按照高效运作的模式来设计或开发的。

土地的紧凑型混合开发就是采用良性循环的典型例子。假如人们的工作地点和需要的服务设施都设计在住宅区的周边附近，那么人们对汽车的使用需求就会减少，从而能有效降低污染物排放并和提高空气质量，这又有将有助于人们身心健康，减少医疗保险的支出，从而形成更加适宜的工作生活环境，使本地区投资开发的价值得到提升。万庄启动区总体规划的驱动力就是这样一个富有创意的良性循环。

资源的综合管理

城市规划的各方面工作将在由不同的团队同时展开，由城市规划的各方面出发与此同时，项目运行和管理也会将会随之产生各种不同的空间布局方案。每个各团队都会开发相应各自的模型，分别涉及社会经济、交通、废弃物处理、能源、供水、通信、商业模式商务、生态和环境影响等不同方面。为了迅速高效地形成统筹兼顾整合的总体规划，就必须在这些模型之间建立连接，从而当空间布局发生改变时，各个团队均能及时把握最新的数据和变化的依据。生态足迹的分析也需要工作也会利使用用到大量数据，也因此需要在两个模型之间进行数据共享。为此，奥雅纳公司已经建立了一套模型办法，并首先在东滩项目上投入使用。现在此办法也运用到包括万庄在内的其它项目上，这对于上海实业在中国各个地区的开发项目都具有重要意义。这套办法模型对于测试规划原则总体方针和总体规划的战略方向特别有效用。此外，因为数据共享通道的存在，这套办法模型不但能够让所有的团队在任意阶段使用一致的数据，而且还能对规划质量进行检验。

可持续性评估

在项目开始阶段制定“可持续性框架”的团队将在设计的各个关键阶段对总体规划进行审核，从而确保各项目标均能得以实现。这一做法将再次检验项目的一致性和严谨性。同时，这个团队在项目实施前可持续性设计导则的准备工作也起到了关键作用。

项目审核