

VILNIUS GEDIMINAS TECHNICAL UNIVERSITY

# SUSTAINABLE DEVELOPMENT OF REAL ESTATE

MONOGRAPH

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Research, theoretical and practical tasks of sustainable real estate development process are revised in detail in this monograph; particular examples are presented as well. The concept of modern real estate development model and a developer is discussed, peculiarities of the development of built environment and real estate objects are analyzed, as well as assessment methods, models and management of real estate and investments in order to increase the object value. Theoretical and practical analyses, presented in the monograph, prove that intelligent and augmented reality technologies allow business managers to reach higher results in work quality, organize a creative team of developers, which shall present more qualitative products for the society. The edition presents knowledge on economic, legal, technological, technical, organizational, social, cultural, ethical, psychological and environmental, as well as its management aspects, which are important for the development of real estate: publicly admitted sustainable development principles, urban development and aesthetic values, territory planning, participation of society and heritage protection. It is admitted that economical crises are inevitable, and the provided methods shall help to decrease possible loss. References to the most modern world scientific literature sources are presented in the monograph.

The monograph is prepared for the researchers, MSc and PhD students of construction economics and real estate development. The book may be useful for other researchers, MSc and PhD students of economics, management and other specialities, as well as business specialist of real estate business.

The edition was recommended by the Committee of Studies of VGTU Faculty of Civil Engineering.

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## **APPROPRIATE ATTITUDE TO WORK NEEDS FOSTERING**

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Alfredas LAURINAVIČIUS, Mindaugas STATULEVIČIUS

Today real estate development as a profession is becoming increasingly marked by professionalism and increasingly recognised by the public. A mismatch between the work done and the market needs costs hundreds of millions in losses. A developer, thus, needs a thorough education and a good knowledge of social, economic and environmental trends that determine or can determine future property prices, both at home and abroad. In the old Western countries or the USA, the developer's profession has long traditions and masters of this field are highly respected and valued. Such recognition, no doubt, is only achieved by setting the bar at top professional competence. A contemporary developer is a specialist well-versed in all property market processes: from the twists and turns of territorial planning, available ways to change a building's purpose, the legislative framework, the tax and legal system and economic factors to good understanding of human psychology.

First of all, each young person should find his or her calling: not everyone is meant to be a poet, a CEO, or a designer. No matter the talents, if someone has chosen the right profession, the person feels motivated to work, create, develop and move forward. Today a lack of such motivation is especially prominent in the labour market. Even in the times of slump we are always in search for employees. In recent years we changed our hiring system thrice and today we focus on personal motivation, readiness to work and desire to achieve set goals.

Fresh university graduates are often not ready for jobs, because academic degrees provide ample theoretical knowledge, but very limited practice. But it is practice that reveals whether the student chose the right profession, whether the student wants and can do such work and is able to apply his or her theoretical knowledge. Real life situations often expose that even graduates can struggle with a simple task, such as choosing a contractor or making a plan. Young people should consider themselves which areas are the best to apply their abilities. Human talents must be spotted much earlier; thus, first of all, we need a good career guidance system that would push children with certain talents in the right direction while still at school. One reason why the existing system is far from perfect is that universities base their admission only on grades, but not on motivation and personal traits.

Not everyone can become a top manager, but all can follow their vocation, look for the right niche in the extensive property development sector and

become the best. All societies need talented, devoted specialists. If you are the best in your field, you will never be without work even in the toughest times, while someone in a wrong position rarely stays long, soon loses motivation and desire to move forward or dedicate time to development and challenges. The organisations that are members of the Lithuanian Real Estate Development Association look for people able to do this. They look for talented, persistent, knowledge-hungry people with goals and born to work in property development and construction.

A few years ago our organisation launched a massive hiring campaign and selected only three from a pool of 300 applicants. Today only one continues with us. In part, our tactics to choose young, promising people did not work. The following year we were looking for employees among leaders of student communities—the most talented creators, stand out with their organisational skills. This approach, however, also failed to produce the desired effect. Once more we realised that lack of career counselling means young people choose wrong professions: many newcomers want to be leaders but struggle with process management and task delegation and cannot take responsibility for mistakes. If we see that someone is a talented analyst, we offer a corresponding job.

Having tried the aforesaid approaches, we now choose our employees by their attitude. We want to gather a team of responsible people, who understand that persistent work can take you high and understand that no job is easy. We give at least five warnings to all newcomers that work in our company is very demanding, but good work pays. Today we, therefore, focus on the attitude of our applicants—on the way they perceive work, the importance they place on career, their views on responsibility. It is very easy to fill in the gaps of knowledge, a few months are enough, but the most important thing is the right attitude. Employers can forgive mistakes, they encourage their employees to make bold decisions, but the main thing is to have a motivated, result-oriented employee who can take initiative to seek results.

### **Understanding professional activities of the property developer**

Property developers are professionally involved in activities that cover many areas. Property developers implement projects that generate profits, contribute to the Gross Domestic Product, create jobs in a range of industries, and shape the built environment and public spaces. The developer is accountable to the public, because its products remain visible and are used for many decades. Development of real estate often happens in an established environment, thus developers need good knowledge of local natural environment and cultural evolution. They also need to take responsibility for the preservation of inherited values. The developer must supply market with sustainable products. So it needs an

understanding of long-term trends of urban development, strategic thinking, and efficient management of the entire property development process. In the 21st century, property development has to be based on universally acknowledged principles of sustainable development (social, economic and environmental) and must consider conditions dictated by climate change (saving of energy and other natural resources, etc.). In democracies, the developer needs skills to debate with various social groups and act as an intermediary between many professions that take part in the creation of the built environment. Overall, the modern developer is a strategist, conceptualist, analyst, manager, intermediary, economic actor, creator and artist.

### **The evolution of property developers**

The developer's profession dates back many years; it emerged together with the built environment. In different countries it has different history and has evolved to different degrees. In old democracies and free-market countries, the property development industry has long traditions dating back to the 18–19th centuries. Highly experienced real estate developers have the capacity to undertake exclusive projects and they answer for the quality of their decisions. Around the world, there are many well-known examples of large-scope modern real estate projects, for instance, the conversion of docklands into modern multifunctional districts in London, Hamburg and Oslo, Orestad mixed-use district in Copenhagen, hotel and commercial complexes in Dubai and many more. Western societies and consumers have financial and legal safeguards, territorial planning, public access to debates on development projects, and the self-regulation culture in property business to protect them against defective real estate products. Western property development professionals gather and develop professionally in public organisations, among which the International Real Estate Federation (FIABCI, [www.fiabci.org](http://www.fiabci.org)) is one of the most famous outfits.

In many post-soviet countries, the concept of a property developer is in its infancy, because the sector is very young, developers yet have to build long traditions or gain a legal status, often lack knowledge and practical experience, and consumer protection is work in progress. In countries of eastern and central Europe, the period between 1990 and now can be defined as a transition from centralised to free market. Transitional periods are marked by rapid development of the property sector, which has the capacity to build things that consumers and the public need, such as housing, offices and logistics hubs, and provide related services. But as the global economic crisis hit and the real estate bubble burst in 2007–2008, the development of the real estate sector slowed down.

Property development associations play an important role in professional self-regulation of developers. Such associations are founded by responsible developer

firms. Together they try to write economic activities of the developer into laws, are looking for new business perspectives, and organise trainings and educational events. Such NGOs set as their main goals endeavours to improve business environment, professional development of their members, and making the public aware of property development ideas.

If the property developer is not clearly designated as an independent specialist, it is problematic to formulate qualification requirements necessary for this activity or demand quality from market participants and enforce their accountability to consumers and the public. It is not easy to spot top professionals in the market and measure their contribution to sustainable urban development and climate change. Figure 5 illustrates the Western take on the planning and implementation of real estate projects.

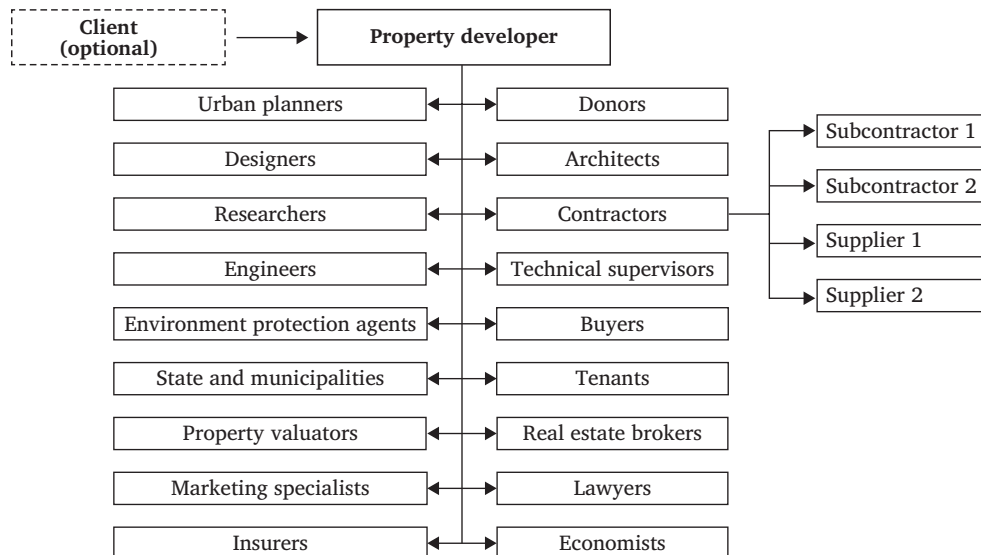


Figure 5. The chart of optimal project planning and implementation (Davis 2007; Kaklauskas, Bardauskienė 2009; Detemmerman 2009)

It is clear from the chart that the property developer has to coordinate and organise actions of all other parties involved in a project. The developer also bears all project-related risks (sometimes projects have a client and then some parties listed in Figure 5, such as buyers, tenants, real estate brokers, marketing specialists and some others, drop out of the picture, but the overall structure remains much the same). But today we still see cases when a client engaged in usual public or commercial activities undertakes to coordinate the project's implementation, which often leads to inefficient process and poor performance.

## The main functions of the property developer

Real estate developers can be of all shapes and sizes. Some are gigantic firms and have the capacity to do all of the abovementioned activities themselves. Others are small outfits with a handful of professional staff; they hire outside companies, contractors and subcontractors to do the job. In all cases, however, the success depends on the ability to coordinate different activities and implement them on time, efficiently and within budget.

A project can be initiated by a property developer, in which case the risk to find eventual buyers and/or tenants falls on the developer, or a project can be ordered by a client, in which case the client entrusts the developer to organise and coordinate the entire development process with an aim to build whatever facilities or infrastructure are needed. A vital role of the property developer is to offer businesses and residents an optimal variant of the building's functionality, location and price.

The most progressive property developers, industry leaders and professionals, cover a broad range of activities: they know global trends, they create visions for residential areas and implement them, they foresee several years or even decades ahead what buildings businesses and citizens will need and where. Developers analyse local markets and create innovative products for sustainable development. Property developers are entrepreneurs in constant quest for new opportunities and they make them come true. Property developers take part in the sustainable development process, which contributes to a community's quality of life, harmonious environment and wellbeing. Foreign literature often mentions the following functions of developers and phases of development (Davis 2007; Frej, Peiser 2003; Miles 2000; Clark 2007):

- 1. Creating the preliminary concept.** The property developer carries out market research and, taking into account territorial planning documents (the master plan and detailed plans for each block), prepares a preliminary business plan. It can be a top-down preliminary concept, when the firm's strategists and visionaries suggest ideas to analysts, who then take them as a basis for their market research, estimations and business plans. It can also be a bottom-up concept, when an opportunity offers to buy specific real estate a plot of land, a building, facilities or something else and then the firm's strategists get estimates from the analysts and try to come up with a vision of what can be done with the real estate.
- 2. Search for a plot, its valuation and acquisition.** The property developer locates a plot that fits the preliminary concept and performs its valuation. The attractiveness of the future project, its relevance to the market and its potential costs are assessed, a preliminary design and construction schedule and budget are drawn up, the project risks are assessed, and the project's financial viability and the return on investment are estimated. If the valuation proves that the business plan is sustainable and the preliminary

concept is sound, the property developer then buys the plot (or takes it on lease or takes into possession and uses in other ways laid out in the laws of the Republic of Lithuania).

- 3. Making the detailed plan.** The property developer, depending on its needs and the purpose of the upcoming project, can split or combine the acquired plot and change its purpose by initiating a detailed plan, i.e. can increase the plot's value and adapt for the future needs.
- 4. Preparing project management documents.** The property developer prepares the construction schedule and the budget, the sales/lease pricing and the final business plan. All these documents will help implement the project in its entirety (the way it is outlined in the design documentation) within budget and on time. These are the principal criteria in any project. The documents are supervised in other project development phases.
- 5. Marketing activities, lease/sales contracts.** The property developer presents the project to the public. It can be articles in the press, promotional campaigns, a website, looking for clients, and signing of lease agreements and/or preliminary sales contracts. This phase can continue well after the construction is completed.
- 6. Securing project's funding.** The project is introduced to banks and the developer seeks financial partners for the project. A loan contract is signed; a refinancing of the plot acquisition is possible.
- 7. Designing.** The property developer organises designing and coordinates work of architects and designers. It includes:
  - selecting a designer and signing an agreement;
  - controlling and coordinating the designing;
  - preparing technical design documentation;
  - securing a building permit;
  - preparing the work design documentation.
- 8. Construction.** The property developer organises construction and coordinates work of contractors, subcontractors and technical supervisors. It includes:
  - selecting contractors and signing agreements;
  - construction investigations;
  - construction;
  - technical supervision.
- 9. Submitting to be approved for use.** A finished building or structure is approved for use as follows:
  - inventory and cadastre verification of the building and other structures;
  - collecting necessary documents for the approval;
  - submitting for verification to the authorities;
  - registering the building.



- 10. Use, lease and/or sale of real estate.** Real estate approved for use can be sold (in its entirety, e.g. a business centre, or in parts, e.g. flats) or the property developer can remain its owner and rent it out (e.g. a warehouse, a logistics centre, an office, or commercial premises).
- 11. Quality assurance during the warranty term.** The property developer, within a period prescribed by laws, is in charge of quality assurance, maintenance and defect elimination.

The key functions have been listed here as step-by-step phases of the property development model. In practice, however, several functions from different phases can be done simultaneously or in different order (e.g. the developer may seek funding well before buying a plot or technical design documentation may be prepared together with a detailed plan). In practice there are cases, especially as a real estate bubble starts to inflate, when developers do not care about local development specifics, they only prepare the detailed plan of a plot of land and sell it. Such actions, when the only driver is huge economic gains and profit without any consideration for the consumer or the quality of life, merit the label of speculative behaviour. On the other hand, those that specialise only in plots of land can skip from the third step to the last, which is selling, but activities of such type cannot be considered part of the developer's profession. Importantly, speculations with plots of land earmarked for property development can be dangerous; in post-Soviet countries, they pushed the recent urban development in the direction of a chaotic "urban sprawl", which is at variance with the requirements that ensure good quality of life and promotes excessive use of energy, other natural resources and fertile agricultural lands.

Amateur companies that come to the property market for one-off profits are clearly eager to withdraw from the process as soon as possible; they never care about appropriate technical supervision of construction or submitting their product for the approval to the authorities, let alone quality assurance during the warranty term when their product is in use. Taking a critical look at recent mistakes and achievements and with public interest to ensure good quality of life in mind, we should entrust the property development process to professional property developers loaded with knowledge about all phases and experienced in quality and financial management.

### **Property developer business and sustainable development**

The property market needs a broader look, taking into account such aspects as sustainable development, the quality of life, environmental quality, public interest, urban development, and urban regeneration. Sustainable property development contributes to improving quality of life. The added value it creates often exceeds its economic value, because it creates social and cultural value that can

ensure a continuity of the property developer's actions, social prestige and pride in one's speciality. On the other hand, some developers neglect the principles of sustainable development and add to one of the biggest troubles that plagued the 20th century: construction of low density single-function houses in suburbs, the so-called urban sprawl. Expanding exurban areas with inferior functions and poor aesthetics increase the need for public infrastructure, up the consumption of natural and energy resources and environment pollution, and spoil the landscape. Are suburban settlements of any use if they cannot be accessed by public transport, have no schools, kindergartens or recreational areas, lack works of art, if nobody cares to maintain and beautify them (Kaklauskas, Bardauskienė 2009)? Of note is the fact that the West plunged into the urban sprawl after the Second World War when local populations were growing and the sprawl is more associated with the new middle class and less-affluent people moving to suburbs, because they could not afford life in city centres. Unlike other countries, the situation in Lithuania is different: the sprawl here goes together with shrinking population. The situation is far from menacing it is a rather small-scale expansion but the emerging peri-urbanisation culture is already failing to answer such needs as the quality of life, conservation of natural and cultural resources, growing energy consumption and growing numbers of personal cars. Experts examining the phenomena of the latest real estate crisis see a common trend throughout the EU: too many new buildings in wrong places and too many tall buildings (Bardauskienė 2010).

Sustainable development is a fundamental policy of EU cities and the sustainable city is recognised as a key goal of the future growth in Europe. Property developers must take into account the ideas of sustainable development in European cities laid out in EU documents, such as the European Urban Charter (1992, 2008), the Aalborg Charter of European Sustainable Cities and Towns (1994), the Aarhus Convention (1998), the Leipzig Charter on Sustainable European Cities (2007), the Sustainable Development Strategy for the EU (2009), and the Europe 2020 strategy (2010). In 1994 in Aalborg, Denmark, the Charter of European Sustainable Cities and Towns was adopted, now signed by over 200 cities that pledged to make sustainable development, a vital part of modern urbanisation, their cause. The Leipzig Charter on Sustainable European Cities stresses integrated policy of urban development aiming at vibrant and productive cities, creation of high-quality public spaces, modernisation of infrastructure networks, improvement of energy efficiency, support for efficient and affordable public transport, and social integration policies. The Aarhus Convention foresees the public as co-creators of the environment. The Sustainable Development Strategy for the EU (2009) and the Europe 2020 strategy set forth long-term guidelines for Europe's growth with a view on the demographic trends. These strategies govern the creation of physical environment and infrastructure.

EU urban policies outline the following attributes of sustainable urban development:

- **Compact cities:** to avoid urban sprawl, new projects are developed taking into account the city's character; it can be conversion of abandoned areas, rebuilding, refurbishment and redevelopment.
- **Multifunctional cities:** mixed land use and multifunctional territories.
- **Public infrastructure:** a public transport system, an optimal network of public transport, fewer cars.
- **Conservation and efficient use** of energy and other resources.
- **High-quality environment:** lower pollution and less waste, aesthetic residential environments.

This imposes the need to have property development firms guided by long-term public needs, rather than temporary business and economic gains. Those property developers that fail to grasp the principles of sustainable development soon vanish, but before vanishing they make enormous damage to the life of communities, the environment, the city and the country, a damage that lingers for decades. Successful property developers have long-term, holistic and strategic thinking:

1. **Long-term approach.** Sustainability depends on a long-term approach to decision making. Implicit in the word “sustain” is the desire for human societies to remain healthy far into the future. The future horizon extends far beyond the typical horizon of governmental planning, the next-election focus of the political system, or the next-quarter time horizon of much corporate decision making (Wheeler 2008). A long-term approach cushions outcomes of a crisis (Detemmerman 2009).
2. **Holistic approach.** Sustainable development requires a holistic, interdisciplinary approach to planning. Traffic planning, for instance, is related to land use, housing development, air quality, etc. The coordination and integration of various actions is important when planning real estate at different scales – building, site, district, city, region, and country (Carpenter 2006).
3. **Strategic thinking.** Excessive focus on problems hinders the ability to see and achieve a breakthrough at any level. Drucker, one of the most eminent representatives of modern management, liked to stress that rather than addressing current issues of a managed system, it is important to focus your attention and efforts on identifying new strategic opportunities and their step-by-step realisation. It is like, as Prof. Dr. Smilga puts it, “leaps of imagination, when you look at the ‘caterpillar’ of all things mundane and manage to see a ‘butterfly’ shining with the bright rainbow colours of tomorrow—our feasible, desirable and somewhat daunting future” (2009).

## **Professional self-regulation of property developers: a case of Lithuania**

In Lithuania, activities and the concept of the property developer are not defined or legally validated in legal acts, neither are they listed separately in the nomenclature of economic activities, but all major companies operating in Lithuania's real estate market apply the conventional plan of real estate project development. In 2004, to get more involved in addressing various issues related to their professional activities and the course of the real estate industry, 26 property developers founded the Lithuanian Real Estate Development Association (LREDA, [www.lntpa.lt](http://www.lntpa.lt)) entrusted with the following functions:

- 1. Bettering the business environment.** The association offers suggestions on ways to improve legislation, on real estate tax policies, and on economic stimuli.
- 2. Professional development of property developers.** Professional development is financed by EU funds and internal resources. The Sustainable Development Academy (2008) acts as an educator: it holds educational events for developers, introduces best practices, assesses the situation, and disseminates progressive ideas to the public.

**Dissemination of sustainable development ideas.** The objectives of responsible property developers and public awareness are highlighted in the contest *For sustainable development*, an event hosted by LREDA since 2007, in collaboration with Vilnius Gediminas Technical University, the Lithuanian Union of Architects, the Builders Association, and the Consumer Association. Since quality is a product of debates between the public and professionals, the contest promotes extensive publicity and discussion of best practices. In entries submitted for the contest, experts see the dynamics and optimistic reality of urban development and urban architecture. Outstanding projects and top-quality buildings are a way to rejuvenate poorly functioning, abandoned urban spaces and promote the revival of communities. At the same time, the body of best practices of modern architecture, construction and urbanisation is growing.