Eco-innovations in the urban regeneration projects

New Models of Urban Entrepreneurship

Context for Development

Marcin Wojtysiak-Kotlarski, Ewelina Szczech-Pietkiewicz, Katarzyna Negacz

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Publisher's note

We're delighted to bring you the book series prepared by the Authors taking part in the "Eco-innovations in cities" Project (POKL.04.03.00-00-249/12-00). The series, which is available free of charge, consists of six books:

- "Eco-cities" by Dominika Brodowicz, Przemysław Pospieszny and Zbigniew Grzymała
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- "Making the 21st Century Cities" ed. by Krzysztof Jarosiński.

The Project was designed and prepared by Professor Marek Bryx, Deputy Rector of the Warsaw School of Economics (SGH), and Doctor Dominika Brodowicz. The Project has been carried out within the Priority IV "Tertiary Education and Science", Measure 4.3 "Strengthening the didactic potential of universities in the fields of key importance for the aims of Europe 2020 Strategy". In line with the objectives, the Project is conducted from 1st July 2013 until 31st December 2015.

The main aim of this Project was to create at the Warsaw School of Economics a one-year specialisation entitled "Eco-innovations in the urban regeneration projects". What is more, the Project's aim is to develop the study offer concerning the area of green and socially responsible eco-innovations in cities regeneration. The main objective of this new specialisation is to enhance students' knowledge

about eco-cities, give them sufficient information and discuss case studies on the subject: how contemporary cities should be planned, developed and managed. As most of our communities exist within the urban environment, the provision of eco-innovations is essential for the well-being of society. This unique educational programme for M.A. students provides information on maximising the benefits of making innovative and creative cities to citizens, local authorities, planners, developers, students, researchers and non-government organisations interested in improving the quality of life in cities.

MSc Alina Modrzejewska-Kołakowska – Project Manager
Prof. Anna Szelągowska Ph.D. – Project Methodological Coordinator

Motto

"There's a compelling, beguiling showbiz mythology of the modern big city – the energy and the abundance, the proximity to culture and power, the streets that just might be paved with gold. We've seen it and we've loved it, on stage and on screen. But we all know that in reality big cities are hard. They're noisy, potentially violent and alarmingly anonymous. We sometimes just can't cope with the sheer mass of people"

N. MacGregor, A History of the World in 100 Objects, Penguin Books Ltd., London 2008.

"You are the sole arbiter of your fitness to start and run your own business. This puts a very heavy responsibility on your self-knowledge, because without a doubt not everyone is suited to being an entrepreneur or being self-employed. The only external check on your fitness to found a business might occur if you need to raise money; in this case a bank manager or other lender or investor judges you. By the time you reach this stage, you may already have committed time and money to your project"

S. Williams, Business Start-up 2014, Financial Times Guides, 27th Edition, Pearson Education Limited, Harlow 2013.

"The origins of what we know as socially responsible investing date back hundreds of years. In early biblical times, Jewish law laid down many directives about how to invest ethically. In the mid-1700s, the founder of Methodism, John Wesley, noted that the use of money was the second most important subject of New Testament teachings. For generations, religious investors whose traditions embrace peace and nonviolence have avoided investing in enterprises that profit from products designed to kill or enslave fellow human beings".

S. Schueth, Socially Responsible Investing in the United States, "Journal of Business Ethics", Vol. 43, No. 3, Social Screening of Investments (March 2003), p. 189.

Introduction

The goal of this book is to provide students with the compact study material for the subject "New models of urban entrepreneurship".

The book consists of the following chapters: (1) principles of eco-economy, (2) private interest vs. public interest, (3) cooperation with city authorities, (4) how to profit from being green in cities, (5) start-ups, (6) socially responsible investments, (7) sustainable urban development and emerging professions.

Every chapter starts with a brief introduction. Thereby authors hope to set the general scene for further, more detailed considerations and essential problems regarding given subject. Attention was paid to comprise key terms regarding the discussed matters.

Intention of the authors of this book was to present and discuss chosen mechanisms and phenomena regarding modern cities. Thereby, we have considered chosen conditions for urban competitiveness (for instance, regarding sustainable development or ecology). Additionally, we tried to highlight some important aspects for modern understanding of entrepreneurial developments in cities. Models of urban entrepreneurship are emerging; this is an implicit concept. Our intention was to describe the chosen aspects regarding the context, in which they will be formed.

The authors of this book would especially like to thank: Professor Dean Fathers from Cass Business School, City University, who was very kind and helpful in assisting the organisation of Marcin Wojtysiak-Kotlarski's research visiting fellowship in the academic year 2013/2014; Professor Montserrat Pareja-Eastaway from Universidad de Barcelona, who was very kind and helpful in assisting the organisation of research visiting fellowships of Ewelina Szczech-Pietkiewicz and Katarzyna Negacz in the academic year 2013/2014.

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Finally, the authors would like to say special thanks to Prof. Vangelis Souitaris, whose valuable comments expressed in the review could be considered by preparing the final version of this text.

Chapter 1

Principles of eco-economy

Katarzyna Negacz

Introduction

This chapter aims to serve as a theoretical basis to the new models of urban entrepreneurship, putting an emphasis on their ecological aspects. It is targeted at students of economic sciences who have basic understanding of micro and macroeconomics, as well as at general readers who would like to know more about the topic. It helps to understand better this alternative approach to economics and is a foundation for solving practical problems which will be elaborated on in the chapters following. The economy will be analysed through the perspective of ecological economics and other related sub-disciplines of economics.

In the chapter, the author will seek the answer to the following questions:

- How does ecological economics come into being?
- How has it changed? How has the rise of green economics influenced ecological economics?
- How does ecological economics differ from other types of economics related to the nature?
- What is most significant in ecological economics? Which topics does it cover and why?
- Why isn't ecological economics a part of mainstream economics?
- Is it positive or normative economics?

The author takes up the topic of the ecological economics principles to find out what role they play in development of new models of urban entrepreneurship and they influence the cities where we live, study and work.

What is not included in this chapter is an overview of de-growth theories, in-depth coverage of sustainable development theory or environmental economics foundations.

1.1. Development of ecological economics

In the first part of this chapter, the author analyzes the definition of ecological economics. She looks at its relationship with mainstream economics and searches for its roots. Then she examines the most important topics in ecological economics, as well as the schools that were shaped within this discipline.

1.1.1. About the concept of ecological economics

There are numerous definitions of ecological economics (eco-economics). According to R. Constanza, "ecological economics is a new trans-disciplinary field of study that addresses the relationships between ecosystems and economic systems in a broad sense. Ecological economics differs from both conventional economics and conventional ecology in terms of breadth of its perception of the problem, and the importance it attaches to environment-economy interactions"[1]. He assumes incommensurability between these two aspects and proposes a new paradigm with multiple denominators. The scope of ecological economics research includes a relationship between economic and ecological systems which are complex, integrated and coevolving[2]. Both sciences, economy and ecology, for a long time were developing in parallel and this discipline tries to merge them.

Figure 1.1. illustrates the elements linked to the conceptual model of eco-economics.

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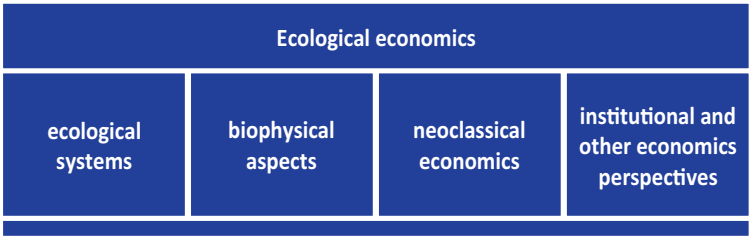
1 R. Costanza, H.E. Daly, J.A. Barthlomew, *Goals, agenda and policy recommendations for ecological economics*, in: R. Costanza (ed.), *Ecological Economics:the science and management of sustainability*, New York, Columbia University Press 1991, pp. 2-3.

2 R. Costanza, L. Wainger, C. Folke, *Modeling Complex Ecological Economic Systems: Toward an Evolutionary, Dynamic Understanding of People and Nature*, "BioScience", 1993, np 43, 8, pp. 545-553.

Figure 1.1. Conceptual model of ecological economics



Source: Own work based on C. Folke, T. Kaberger, *Recent trends in linking the natural environment and the economy*, in: C. Folke and T. Kaberger (eds), *Linking the natural environment and the economy: Essays from the Eco-Eco Group*, Kluwer, Dordrecht, 1991, p. 275.

Ecological economics is a sub-discipline of neoclassical economics. It seeks answers to the problem of environmental externalities, as well as management of natural resources and their optimal allocation[3]. Neoclassical economists solved the issue of limits to the growth by technological progress, if its rate is high enough, or if man-made capital can substitute for non-renewable resources. However, this statement was criticised on numerous occasions[4].

Eco-economics is closely related to the institutional economics[5]. Their relationship were examined by F. Aguilera-Klink, Klaassen, J.B. Opschoor, J. van der Straaten and P. Soederbaum[6], while the first institutional economists taking environmental perspective was W. Kapp in 1970[7]. Although eco-economics is closely linked to the neoclassical mainstream, there are a few points in which the former differs from the latter. This includes assumptions as follows[8]:

[3] G. Munda, *Environmental Economics, Ecological Economics, and the Concept of Sustainable Development*, Universitat Autonoma de Barcelona, Dept of Economics and Economic History, p. 215.

[4] See: D.W. Pearce, K.R. Turner, *Economics of natural resources and the environment*, New York, Harvester Wheatsheaf,1990.

[5] Eco-economics also relates to the institutional economics. This relationship was examined by F. Aguilera-Klink, Klaassen, J.B. Opschoor, J. van der Straaten and P. Soederbaum, while the first institutional economists taking environmental perspective was W. Kapp in 1970. G. Munda, op. cit., p. 222. See: F. Aguilera-Klink, *Some notes on the misuse of classic writings in economics on the subject of common property*, "Ecological Economics", 1994, 9 (4): pp. 221-8; G.A.J. Klaassen, J.B. Opschoor, *Economics of sustainability or the sustainability of economics: different paradigms*, "Ecological Economics", 1991, 4: pp. 93-115. J.B. Opschoor, J., van der Straaten, *Sustainable development: an institutional approach*, "Ecological Economics" 1993, 7(3): pp. 203-22. P. Söderbaum, *Neoclassical and institutional approaches to development and the environment*, "Ecological Economics" 1992. 5: pp. 127-44.

[6] *Ibidem*.

[7] G. Munda, *op. cit.*, p. 222.

[8] A.M. Hussen, *Principles Of Environmental Economics: Economics, ecology and public policy*, London & New York, 2000, pp. 123-126.

- Human economy is a subsystem of natural ecosystem. Ecological economics concentrates on exchange of matter and energy between the systems[9].
- Production is regarded as the beginning of economic activity[10]. Production factors include raw materials, energy, information flows, and the physical and biological processes. Nature is the ultimate source of wealth, however it is limited by both the regenerative and the assimilative capacities of the natural ecosystem[11].
- The theory of thermodynamics and energy flows is used to define the role of natural resources in the economy[12].
- Complementary character of production factors plays a major role in ecological economics research. At the same time, depletion of natural resources cannot be solved by substitution by labour or capital or technology.
- The impact is put on the scale and its influence on both human economy and global ecosystem[13]. It is believed that at present economy puts too much pressure on the environment[14]. Therefore, studies of ecological economics deal with topics such as: toxic waste, deforestation, endangered species' extinction, ozone layer depletion, exploitation of the ocean and global warming.

For eco-economists, recognizing the biophysical limits to the growth is the first step in searching for the optimal scale of production. They suggest that one should take a new approach to the economic analysis based on the following assumptions[15]:

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9 R.U. Ayres, "Application of Physical Principles to Economics," in R.U. Ayres (ed.) *Resources, Environment, and Economics: Applications of the Materials and Energy Balance Principle*, New York: John Wiley, 1978. D.W. Pearce, Foundation of Ecological Economics, "Ecological Modelling", 1987, 38: pp. 9-18.

10 R.U. Ayres, *op. cit.*

11 N. Georgescu-Roegen, *The Entropy Law and the Economic Problem*, in: H.E. Daly and K. Townsend (eds.) *Valuing the Earth: Economics*, Ecology, Ethics, Cambridge, Mass MIT Press, 1993.

12 H. Odum, E. Odum, *Energy Basis for Man and Nature*, New York, McGraw-Hill, 1976; R. Costanza, *Embodied Energy and Economic Valuation*, Science,1980, 210: pp. 1219-24; P. Mirowski, *Energy and Energetics in Economic Theory: A Review Essay*, "Journal of Economic Issues", 1988, 22: pp. 811-30.

13 H.E. Daly, *Allocation, Distribution, and Scale: Towards an Economics That Is Efficient, Just, and Sustainable*, "Ecological Economics", 1992, 6: pp. 185-93.

14 R. Goodland, "The Case That the World Has Reached Limits" in: R. Goodland, H.E. Daly and S. ElSarafy (eds.) *Population, Technology and Lifestyle: The Transition to Sustainability*, Washington, D.C, Island Press. 1992.

15 A.M. Hussen, *op. cit.*, pp. 123-126.

- Efficiency should not be considered without other factors, such as ethical aspects, distribution in time and within generations[16].
- Economics should adopt a systemic and interdisciplinary approach[17].
- Analysis should include uncertainty in the long term, as all systems undergo irreversible changes[18], and as such it all should be treated with precautions due to limits to the growth[19] .

Ecological economics seeks for policy recommendations to assist in this problem solving by a scientific and political debate[20]. It is not ethically neutral and, as a normative discipline, it gives subjective policy recommendations.

1.1.2. Invention and evolution of the field

Eco-economics is considered rather a new field of research, but it stems from the pre-classical physiocrats, a French school of economics from the 17th century. The school assumed that the economic surplus comes from the productive power of "land", which at present may be translated into natural resources. Land and natural resources are the source of nation's wealth. W. Petty (1623-1683), a famous representative of this school said that "land is the mother and labour is the father of wealth"[21]. This approach to land was also taken into classical economics by David Ricardo. However, the land was considered as a limiting factor by both physiocrats and classical economists, and one that determines human economy in the long term[22]. The model was taken into economics to explain how natural resources turn into final goods and services. It was also used to explain the link between energy flow and economic activity to show the relationship between the natural economy, ecosystem and energy as a main factor in unified value theory[23].

Further development of ecological economics began in 1960, when public became more aware of planet's limitations. Three most important reasons for

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16 H.E. Daly, "Introduction," in H.E. Daly (ed.) T*oward a Steady-State Economy*, San Francisco: W.H. Freeman, 1973.

17 R.B. Norgaard, *The Case for Methodological Pluralism*, "Ecological Economics", 1989, 1: pp. 37-57. R. Costanza, L. Wainger, C. Folke, *Modeling Complex Ecological Economic Systems: Toward an Evolutionary, Dynamic Understanding of People and Nature*, "BioScience", 1993, 43, 8: pp. 545-53.

18 K. Arrow, B. Bolin, R. Costanza, R. et al., *Economic Growth, Carrying Capacity, and the Environment*, "Science", 1995, 268, pp. 520-1.

19 A.P. McGinn, *Rocking the Boat: Conserving Fisheries and Protecting Jobs*, "Worldwatch Paper" 142, Washington, D.C., Worldwatch Institute,1998.

20 G. Munda, *op. cit.*, p.228.

21 A.M. Hussen, *op. cit.*, pp. 126-129.

22 *Ibidem*. See: Ricardo's law of diminishing returns and the laws of thermodynamics.

23 H. Odum, E. Odum, *Energy Basis for …*, *op. cit.*, R. Costanza, *Embodied Energy …*, *op. cit.*

this include space race, consciousness of the planet Earth as limited sphere and publication of "Silent Spring" (1962) by R. Carson which demonstrated effects of pesticides misuse[24]. In the mid-1960s, K. Boulding published "The Economics of the Coming Spaceship Earth" which helped in restoration of ecological economics[25]. In the 1970s, N. Georgescu-Roegen and H. Daly developed main themes of the field: limits to the growth considering access to quality energy and potential loss of ecosystem resilience[26].

However, the mainstream economists remained adamant for changing neoclassical growth paradigm[27]. Some economics viewed eco-economics as a new approach toward the traditional Malthusian theory. There were also economists who tried to include the idea of ecological limits to mainstream economics without becoming ecological economists themselves. This trend was visible in environmental and resource economics, a subdomain of economics, increasingly popular since 1970s[28]. As such, the economy was taking from the environment (e.g. natural resources) and giving back (i.e. waste)[29]. To give an example, according to E. Odum, we can divide ecosystems into three categories[30]:

- Natural environments or natural solar-powered ecosystems, e.g. open oceans, wetlands, etc.
- Domesticated environments or man-subsidised solar-powered ecosystems, e.g. agriculture lands, woodlands, etc.
- Fabricated environments or fuel-powered urban-industrial systems (cities, industrial areas, etc.).

Ecological economics in the 20th century emerged from the crisis of environmental economics. It happened because of a lack of new insights explained by regulating some environmental issues in numerous countries, time of neo-liberal approach and excluding some researchers (e.g. Daly, Hirsch, Kapp, Kneese, Mishan, Page, and Schumacher). Later, the field became more

[24] A.M. Hussen, *op. cit.* pp. 126-129.

[25] Classical economists such as T. Malthus (1798), D. Ricardo (1817), J. S. Mill (1857) and K. Marx (1867) kept in mind that economy is linked to environment. Neoclassical economist omitted this issue in their studies until 1970s.

[26] The latter problem leads to ecological pressure due to prolonged environmental pollution resulting in a loss of biological productivity, desertification, and treat to biodiversity.

[27] J.T. Young, *Is the Entropy Law Relevant to the Economics of Natural Resource Scarcity?*, "Journal of Environmental Economics and Management" 1991, 21, pp. 169-79.

[28] A.M. Hussen, *op. cit.*, pp. 126-129.

[29] R.U. Ayres, and A.V. Kneese, *Production, consumption and externalities*, "American Economic Review", 1969, 59, pp. 282-297. A. Kneese, R. Ayres, R. d'Arge, *Economics and the environment: a materials balance approach*, "Resource for the Future", Washington DC, 1970.

[30] E.P. Odum, *Ecology and our endangered life-support systems*, Sunderland, MA Sinuaer Associates, 1989.

open again and attracted new researchers such as Spash, Constanza, Norgaard, but no theory or paradigm was offered[31]. No new approach is one of the biggest accusations against the eco-economics.

The future development of the field is uncertain, especially from the methodological point of view. Increasingly popular methods used are transdisciplinary research and mathematical models (multidisciplinary approach). However, economics is not a unity and along with the mainstream model there are many others coexisting, e.g. Marxist, feminist, institutionalism, evolutionary, Austrian, etc. This diversification leads to methodological pluralism[32].

1.1.3. Scope of the field

Ecological economics addresses a number of topics which are related to, but different from those in other economics or nature sciences. Key issues for the analysis are the following:

- methodology use;
- economic and ecological modelling;
- resources allocation;
- weak and strong sustainability;
- energy economics;
- environmental services;
- cost shifting.

Alternative subject division was proposed by S. Ingebrigtsen, O. Jakobsen. According to them, concepts and principles of ecological economics comprise[33]:

- the ecological man – an integrated, co-responsible, cooperating with other actors in contrast to the economic man (homo oeconomicus) being one-dimensional, self-interested and competition oriented. It was investigated by Ingerbrigtsen, Jakobsen, Daly, Cobb.
- qualitative development – including not only sufficient per capita wealth, but also equitable distribution. Research on this subject is represented by Daly, Capra, Henderson, Whitehead.
- bottom-up initiatives – fostering responses and learning from a living system models in direct opposition to top-down management. Researchers linked to this topic inlude Williams, Binney.

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31 C.L. Spash, *The shallow or the deep ecological economics movement?*, "Ecological Economics", 2013, 93, p. 352.

32 C.L. Spash, *The shallow...*, *op. cit.*, p. 353.

33 S. Ingebrigtsen, O. Jakobsen, *Utopias and realism in ecological economics – Knowledge, understanding and improvisation*, "Ecological Economics", 2012, 84, p. 86.

- cooperation – including growing number of interactions between economy, society, culture. Related researchers are Welford, Freeman, Taylor, Habermas.
- local circular networks – more important now than global connections and big structures. Researchers linked to this issue are Ingerbrigtsen, Jakobsen, Boulding, Schumacher, Giddens[34].

Beyond that, there are many renowned economists who contributed to the development of the field, e.g. Nobel Prize winners such as A. Sen, theorists R. Solow, J.E. Stiglitz, K. Arrow, and E. Ostrom[35].

1.1.4. Role of ecological economics – translating theory into practice

Topics within the scope of the field are most often deeply ingrained in the surrounding reality. In the following chapters, we will show how elements of ecological economics appear in the urban entrepreneurship, relationship between public and private sector, as well as sustainable urban development and professions.

One can apply multiple perspectives to analyse the world through ecological economics perspective. Some topics of interest may include:

- relation between state and environment in a chosen country,
- legal aspects of nature protection,
- public-private partnership related to environment,
- climate change impact, risks, mitigation, adaptation,
- energy,
- transportation systems,
- urbanization,
- corporate social responsibility,
- finance,
- marketing and promotion[36].

In this book, we will explore themes related to the city and entrepreneurship. More specifically in this context, we will analyse private and public partnerships, profiting from "being green" in the cities, socially responsible investments, sustainable urban development and green job opportunities.

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[34] Interesting case is given by A. Giddens in *The Consequences of Modernity*, Stanford University Press, Stanford, 1990. It is the example of Transition Towns, www.transitiontowns.org.

[35] C.L. Spash, *The shallow...*, *op. cit.*, p. 351.

[36] For more specific examples see: *Advancing Ecological Economics Theory And Practice*, http://www.esee2011.org/index.php?p=22, 14.06.10.

1.2. Variations of ecological economics

In the second part of this chapter, the author differentiates between a number of sub-disciplines in economics. She explains the difference between ecological economics, environmental economics, sustainability economics, green economics and their scope.

1.2.1. Types of economics linked to the natural environment

What both ecological and environmental economics have in common is the drive to understand the relationship between human, environment and economy as well as to set economy in the direction to sustainability. However, they address this aim in a different way by undertaking a diverse analytical framework, theoretical and methodological issues.

Environmental economics

"The major task of an environmental economist here is to employ the standard utility models to analyse how the individuals combine the market and non-market commodities to produce economics welfare, and how this welfare changes in relation to change in the combination of goods".

L. Venkatachalam, *Environmental economics and ecological economics: Where they can converge?*, "Ecological Economics" 61.2 (2007), p. 551.

Environmental economics is a subdomain of neoclassical economics. The National Bureau of Economic Research, an American non-profit research organization, defines it as "theoretical or empirical studies of the economic effects of national or local environmental policies around the world"[37]. It is different from ecological economics, which focuses on the economics being a part of the ecosystem and on the preservation of natural capital[38]. The basis of the environmental economics was ecology – a science examining relations between living organisms and the ecosystem, and among the living organisms themselves[39]. These relationships, as well as negative consequences of human activity, were examined from the earliest times, e.g. by Plato[40].

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37 *Environmental Economics*, National Bureau of Economic Research, http://www.nber.org/, 11.04.2014.

38 *Young researchers on energy and environmental economics*, K. Negacz (ed.), Warsaw School of Economics Press, Warszawa 2014.

39 V. Korporowicz, *Ekonomia środowiska – współczesna nauka z tradycjami*, „Studia Ecologiae et Bioethicae" 1/2003, p. 330-341.

40 W. Witwicki, *Platon. Uczta*, PWN, Warszawa 1988, p. 61.

The history of environmental economics is both rich and long. Greeks had a positive approach towards environment which stemmed from their religion and believes[41]. In 1798 Thomas Malthus wrote "An Essay on the Principle of Population". It illustrates a situation where population growth exceeds land's potential and leads to famine. The author wrote about such a situation without consideration innovation and self-restraints, which were later on included by his followers. Though the picture he painted seems quite catastrophic, it actually happened in reality. There are some historic examples (Mayans and tribes of Easter Island) where the growth of local population used land food production potential to the extent that enforced a cultural and social change on the inhabitants[42]. After Malthus, several other economists took up environmental related topics. One of them was W. Isard, who focuses on spatial and regional dimensions[43]. Another well-known economist who analysed relations between environment, pollution and economic growth was S. Kuznets[44]. However, pioneers who brought environmental economics back to the scene in the modern times were members of the Club of Rome[45]. The very first report "Limits to the growth" caused a movement in the scientific world and started research in various directions. One of them was the idea of sustainable development, which dates back to the late 1980s, with its roots in a report prepared by the Brundtland Commission entitled "Our Common Future"[46].

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41 E. Hargrove, *Foundations of environmental ethics*, Englewood Cliffs, Prentice Hall, New Jersey, 1988, p. 16-18.

42 T. Tietenberg, L. Lewis, *Environmental and natural resource economics*, Pearson, Addison Wesley Boston San Francisco New York, 2009, p. 2.

43 A. Rose, H. Folmer and P. Nijkamp, *Walter Isard's Contributions to Environmental Economics and Ecological Economics*, "International Regional Science Review", 11 Oct 2012.

44 J.E. Aldy, *An Environmental Kuznets Curve Analysis of U.S. State-Level Carbon Dioxide Emissions*, "The Journal of Environment Development", 14, 2005, pp. 48-72.

45 B. Spooner, *Ecology in development: a rationale for three-dimensional policy*, The United Nations University, Tokyo, 1984, p. V.

46 *Report of the World Commission on Environment and Development*, United Nations, General Assembly Resolution 42/187, 11 December 1987, http://www.un.org/documents/ga/res/42/ares42-187.htm, 13.04.2014. In this document, sustainable development is defined as "development that meets the needs of the present without compromising the ability of future generations to meet their own needs". Three pillars of sustainable development include ecological balance, economic growth and social progress. The first one, ecological stability regards concern for human interactions with the environment and maintaining the environment as pristine as possible, to minimize the negative impact on the environment. This approach assumes that natural resources should be used at a pace at which they can be replenished naturally. The second pillar is economic growth and it means achieving business profits and taking into consideration social and environmental costs. Due to the market failure the costs of externalities are often omitted when counting final profits. Last pillar – social progress – aims to develop the quality of life. Social sustainability includes distributional equity, adequate provision of social services including health and education, gender equity, and political accountability and participation

Environmental economics' creation was linked to the need to analyze the negative externalities which are a key economic category. It derives from neoclassical economics, but adopts behavioral economics, institutional economics and other major streams as well. It started with the paradigm of the rational and selfish man who believes in the infallibility of science which connects him to Descartian philosophy[47]. This homo oeconomicus maximizes satisfaction in every field[48]. The second assumption includes belief in the invisible hand of the market which optimally allocates resources. These axioms are subject of the analysis of the environmental economics. The relationship between the economy and the environment is explored mainly through the analysis of externalities, market failure and potentially rational decisions of business entities. In a market economy, the market should effectively allocate desired value. However, the problem arises as the quality of the environment is not a part of the exchange market, and the market cannot effectively allocate natural resources. State interventions sometimes aim to make up for this. Similarly, the actions of homo oeconomicus are not always rational from the point of view of the environment. The main objective that drives him is to lower the cost of production, which not always is the optimal choice. Often, this translates into increase in the amount of pollution, negative consequences for the environment and third parties not being taken into account in the analysis. Environmental economics not only uncover the problems, but also seek solutions. One of them is the polluter pays principle and tax incentives. In 1920 A. Pigou first proposed this instrument to combat socially undesirable externalities to correct the market failures from the neoclassical point of view. Other researches followed the framework of neoclassical economics. Some examples of this include[49]:

- Coasian theorem – R. Coase, 1960
- 'second best solution' in the pollution control – W. Baumol and W. Oates, 1988
- Non-market valuation within micro cost-benefit analysis – V. Smith, 1993
- Sustainable development – D. Pearce and R. Turner, 1990
- Environmental accounting – Y. Ahmed, 1989
- Microeconomics of environment – M. Munasinghe, 2002.

It is considered holistic as it covers such a wide scope of subjects and a major part of normative welfare economics. Strong sides of this analytical approach

[47] V. Korporowicz, Ekonomia środowiska ..., *op. cit.*

[48] A. Woś, *Ekonomika odnawialnych zasobów naturalnych*, SGH, Warszawa 1993, p. 23.

[49] L. Venkatachalam, *op. cit.*, pp. 550-558.

include analytical rigor, ability to provide specific solutions, whereas it weakness lies in the narrow approach[50].

Environmental economics include issues from macro, mezzo, and micro economic level, from the fisherman overusing fisheries, through companies introducing CSR campaigns, to national and international environmental policies. Some of the popular issues include market failures, externalities, common goods and valuation.

In the future, environmental economics will have to deal with numerous issues, among which climate changes and pollution seem the most problematic. Both directly affect human health, access to the resources and business operations. Within current challenges, the environmental economics seek an answer to all these problems. The awareness of the past and current generations that they cannot use environment and resources thinking only about themselves becomes a burden for the economy. Industrialized countries become threatened by environmental problems such as poverty, resource overuse, loss of biodiversity etc. They all require international cooperation because they cause diversified effects for different countries, not necessarily those where the issues originate from them, and affect global ecosystem. Additionally some issues may interfere with the competitive position of the country, attracting investors and creating pollution heavens. Appropriate environmental policies help to combat these problems and foster profitable business solutions.

Differences between environmental and ecological economics

Some of ecological economists criticize environmental economics. Its flaws consist of the following[51]:

- disregarding natural limits to the growth,
- abandoning significant interdependency between economy and environment,
- underestimating the role of time.

The other group also expressed some critical comments towards the first one. The criticized points in ecological economics are[52]:

- too vast scope, focusing on too many areas;
- not yet providing any widely recognized and specific theoretical framework to deal with ecological issues;

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50 *Ibidem*.

51 F. Sollner, *A reexamination of the role of thermodynamics for environmental economics*, "Ecological Economics", 1997, 22, pp. 175-201.

52 *Ibidem*, p. 556.

- unsolved problems within various disciplines that do not make it interdisciplinary.

The Table 1.1 shows main differences between two fields.

Table 1.1. Differences between environmental economics and ecological economics

Ecological economics	Environmental economics
• Diversified approach: energy/entropy analysis, ecological modelling • Ecological resources equally important no matter their scarcity • Critical approach to economic value, states alternatives such as energy-embodied value, 'ecosystem price' • Scarcity as absolute scarcity phenomenon, irreversibility and bio-physical limits of the closed ecosystem • Sceptical about the role of technology in environmental problems • Population and consumption has negative effect on resources base • Equity and efficiency concerns should be considered separately. Equity and sustainability depends on each generations commitment • Normative discipline, ethically engaged • Strong sustainability operationalised by biophysical indicators • Incommensurability, multidimensional approach and weak comparability	• Neoclassical approach: methodological individualism, rationality, marginalism, efficiency criterion, general equilibrium models • Natural resources deserve economic treatment are relatively scarce and enable generating utility to individuals • It depends on individual preference based economic valuation (anthropocentric approach) • Resource scarcity as the Ricardian relative scarcity phenomenon, environmental Kuznets curve, weak sustainability paradigm • Optimistic approach to new technologies which in a long time will emerge due to the Darwinian process • Population and consumption growth are not major threat. Perfect markets and innovative technologies counter the diminishing marginal productivity of environmental resources • Environmental policy should concentrate on achieving efficiency and Pareto optimal outcomes to ensure intergenerational equity • Viewed as positive discipline • Weak sustainability only possible • Strong comparability on weak or strong commensurability

Source: G. Munda, *op. cit.*, p. 228. L. Venkatachalam, *op. cit.*, pp. 551-558.

To conclude, both ecological and environmental economics have a common objective to better understand the relation between human-economy and environment. Each sub-discipline has chosen a different approach: neoclassical or diversified, which results in a continuing differentiation process between them. The challenge will be to narrow this gap by analysing common goals of environmental economics, ecological economics, behavioural economics, and experimental economics, and prepare shared research agenda[53]. However, this would require analysis of human behavior by methodological individualism, which makes it difficult as ecological economists do not accept that. If they change it in the future they may contribute to a major breakthrough[54].

[53] L. Venkatachalam, *op. cit.*, p. 557.

[54] L. Venkatachalam, *op. cit.*, p. 557.

Green economics

A widely used term related to environmental economics is green economics. So far there has been no commonly accepted definition or a scope, although numerous reports and publications have been devoted to this subject.

The term first appeared in the 'Blueprint for a Green Economy' in 1989[55] which is considered crucial text for this discipline, linked to the economics of sustainable development. In 2008 the United Nations started 'Green Economy Initiative'. Since then numerous definitions as well as term alterations emerged, including green growth, greening economy.

The most accepted definition was coined by UNEP. It states that "green economy is one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities"[56]. The link to the sustainable development was also highlighted: "The concept of 'green economy' does not replace sustainable development, but there is a growing recognition that achieving sustainability rests almost entirely on getting the economy right. Decades of creating new wealth through a 'brown economy' model based on fossil fuel have not substantially addressed social marginalization, environmental degradation and resource depletion. In addition, the world is still far from delivering on the Millennium Development Goals by 2015"[57]. The green economy puts emphasis on integration of economic and environmental policies to underline chances for new sources of economic growth and at the same time minimizes the negative impact on quality and quantity of natural resources[58].

It can be also characterized by[59]:

- intergenerational equity and fairness;
- being in line with sustainable development concept;
- preventive attitude towards environmental and social impact;
- appreciation of natural and social capital, including internalization of external costs, green accounting, improved governance;
- sustainable use of natural resources in consumption and production;
- reaching macroeconomic goals through creating green workplaces, poverty eradication, rising competitiveness and fostering growth.

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55 D.W. Pearce et al., *Blueprint for a Green Economy*, 1989.

56 *Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication*, UNEP, 2011, http://www.unep.org/greeneconomy, 12.04.2014.

57 *Ibidem*.

58 *Europe's environment An Assessment of Assessments 3 Green economy*, http://www.eea.europa.eu/publications/europes-environment-aoa/chapter3.xhtml#note22, 12.04.2014, p.96.

59 *Ibidem*, p. 97.

Discussion concentrates on the search for an optimal policy, assessments and a lack of analysis. The topics within the green economy and resources efficiency were grouped into two categories:[60]

- green economy: renewable energy, energy efficiency, mobility, industry emissions and waste, innovation, environmental impact assessment, governance, environmental performance reviews, CSR, mining;
- resource efficiency: the use of natural capital, water efficiency, life-cycle analysis, environmental accounting, sustainable consumption and production, tourism.

Green economy may refer to sectors (e.g. energy), topics (e.g. pollution), principles (e.g. polluter pays) or policies (e.g. economic instruments)[61]. There is a number of international organizations which foster green economy, such as FAO – Greening the Economy with Agriculture, World Bank – Changing Wealth of Nations or IMF – Green Growth. Many private or voluntary, non-governmental organizations conduct impact assessment in this field, e.g. the World Wide Fund for Nature, the World Resources Institute, the World Steel Association or the Stockholm Environmental Institute[62].

These tendencies show that green economy is a relatively new topic seeking its place among various economic theories . Major challenge is a lack of coherent integrated framework which would be widely agreed on. The second problem is a relatively wide scope of concepts and issues that it covers. Most assessments concentrate on one of the topics such as energy, mobility or industry.

Sustainability economics

Next type of economics related to nature is the sustainability economics. Its definition was prepared in 2010 by S. Baumgärtner, M. Quaas[63] and combines the aims for: "economics, seeking efficiency in the satisfaction of human needs and wants, and sustainability, seeking intra- and intergenerational justice for humans and nature"[64].

As a consequence, it integrates the economic efficiency and just distribution of the nature services. It is considered to be broad enough to include both environmental and ecological economics and sustainable development concept. At the same time, it has been criticized to be not broad enough by J. Van den

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60 *Ibidem*, p. 99.

61 *Ibidem*.

62 *Ibidem*.

63 S. Baumgärtner, M. Quaas, *What is sustainability economics?*, "Ecological Economics", 2010, 69, pp. 445-450.

64 P. Bartelmus, *Use and usefulness of sustainability economics*, "Ecological Economics", 2010, 69, p. 2053.

Bergh[65]. According to him, the authors do not take into consideration: environmental externalities, weak and strong sustainability, spacial distribution of sustainability, environmental and sustainability policies and dogma of the GDP growth[66]. However, there is a clear benefit of this concept as the sustainability economics is related to both ecological and environmental economics, existing at the intersection of the two. What is interesting, it also includes a distinction between various types of sustainability which are: ecological sustainability, economic sustainability of non-declining welfare, economic sustainability of economic performance and growth, sustainability of development[67]. According to P. Bartelmus, as such it enables reconciliation between two subfields of economics being a clear connecting between normative sustainability and positive economics and its reason for existence.

1.2.2. Schools of ecological economics

The field of ecological economics is divided into a few schools of thought with a number of researchers associated with them. According to Spash, ecological economists can be separated into three groups, which are:

- (2) New Resource Economists – who accept orthodox economics and see no need to change or to create a new paradigm;
- (3) Social Ecological Economists – who call for new theoretical foundations;
- (1) New Environmental Pragmatists – who don't care about theoretical foundations, but prefer practical approach to solve environmental problems and appeal to people who have power to introduce changes.

The Table 1.2 shows which elements of methodology and scope are specific for each group.

Table 1.2. Three camps division according to Spash

New Resource Economists	Social Ecological Economists	New Environmental Pragmatists
• Multidisciplinary • Linked to: New Institutional Economics, Ecological Modernisation	• Interdisciplinary • Linked to: Critical Institutional Economics, Political Economy, New Institutional Economics, Political Ecology	• Transdisciplinary • Linked to: Ecological Modernisation, Political Ecology

Source: Own work based on C.L. Spash, *The shallow or the deep ecological economics movement?* "Ecological Economics", 2013, 93, p. 354.

[65] J.C.J.M Van den Bergh, *Externality or sustainability economics?*, "Ecolological Economics, 2010, 69, pp. 2047-2052.

[66] P. Bartelmus, *op. cit.*, p. 2054.

[67] P. Bartelmus, *op. cit.*, p. 2054.

New Environmental Pragmatism comes from American Pragmatism which was developed in the US at the turn of 19th and 20th century and represented by C. Peirce or J. Dewey. Representatives want to pass their message and environment to politicians and business in an academic form adapting appropriate methodology and framework. Examples of topics include: ecosystem service valuation, natural capital, green accounting carbon trading, biodiversity offsets, banking. Concepts are justified as politically useful and they aim at political validation, not understanding, testing or empirical validity; social science theory and methodology are viewed as irrelevant. Field representatives are criticised as not willing to deal with issue complexity and political and social reality (e.g. W.W. Norton). Researchers linked to this school are R. Constanza, C. Daly, numerous NGOs, UN, majority non-economists. A distinguishing feature is the lack of concern for theoretical rigour, methods to achieve solutions.

Second group, New Resource Economists view ecological economics as sub-discipline of neoclassical economics which serves as theoretical foundation. Scientists linked to it are M. Common, S. Stagl, H. Daly, J. Farley, J. van den Bergh. Most important assumptions are: faith in market-based systems, free democratic societies; mainstream price theory orientated on market pricing. Main new concepts concentrate on ecosystem functioning and inclusion of ecosystem functions into economic models, optimal resource use. These economists prefer mathematical formalism as the methodology. The school is supported by Swedish Beijer Institute.

Third group, Social Ecological Economists addresses critique of economic orthodoxy and adopt critical realism and multiple economic schools, e.g. critical institutional, evolutionary, feminism, neo-Marxist, psychological, Post-Kenesian, critical realist and social. They view world as changing rather than look for equilibrium and stability. Representatives are W. Kapp, J. Gowdy, D. Erickson, A. Vatn, M. Max-Neef, C.S. Holling. The school put emphasis on coevolution of social, economic and environmental systems, uncertainty. Methodology is historical descriptive analysis. Interdisciplinary approach linking with social psychology, sociology, politics, philosophy, geographic; theoretical development and interaction between research fields.

Additionally, there is also a number of intermediate positions[68]. As C. Spash explains, ecological economics serves as a 'big tent' for all these divisions. As R. Howarth says "ecological economics is a transdisciplinary field that is defined by a set of concrete problems rather than a particular epistemology or methodology"[69]. Some researchers proposed to reunite ecological and

[68] See: *Ibidem*, p.358.

[69] R.B. Howarth, *Editorial. Ecological Economics*, 2008, 64, p. 469.

environmental economics to create one under sustainability economics or natural economics[70]. Others argue for division due to ontological, epistemological, methodological and ideological reasons[71].

Research centres for the movement

With the growing world population, the recognition and relevance of ecological economics became accepted by the wider audience. It resulted in constitution of related academic societes[72]. Starting with the limits to the growth in 1970s, ecological economics triggered new movements among researchers: ISEE and ESEE.

The International Society for Ecological Economics (ISEE) commenced on a meeting held by J. Martines-Alier in 1987 in Barcelona. Participants included M. Faber, S. Functowiz, M. Giampietro, A.-M. Jansson, M. O'Connor, J. Proops, J. Ravetz and M. Ruth. It was formally established as society in 1988 in the US. The society soon opened local branches and gained new members. It also launched a journal, *Ecological Economics*. Their headquaters are located at the University of Maryland's Institute for Ecological Economics, opened in 1991 thanks to the Ford Foundation and the John D. and Catherine T. MacArthur Foundation[73].

European Society for Ecological Economics (ESEE) was set up as a charity in France in 1996, at a the conference in the University of Versailles. It undertakes more socio-economics and political economy approach, so it supports different methodology than mainstream economics. It published a series of books. It cooperates with philosophers, sociologists, psychologists to examine fundaments of human behaviour and well-being[74].

As for the institutions, the most significant impact between 2000 and 2009 belonged to the University of Maryland (USA), Resources of the Future (USA), the University of East Anglia (UK), the World Bank and the National Chung Hsing University (Taiwan), as well as the Vrije University of Amsterdam[75].

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70 M. Ruth, *A quest for the economics of sustainability and the sustainability of economics*, "Ecological Economics", 2006, 56, pp. 332-342. S. Baumgärtner, M. Quaas, *What is sustainability economics?*, "Ecological Economics", 2010, 69, pp. 445-450.

71 C. L. Spash, *New foundations for ecological economics*, "Ecological Economics", 2012, 77, pp. 36-47.

72 C.J. Cleveland, *Biophysical Economics: Historical Perspective and Current Research Trends*, "Ecological Modelling", 1987, 38, pp. 47-73.

73 C. Spash, *The development of environmental thinking in economics*, "Environmental Values", 1999, 8.4, p. 422.

74 *Ibidem*, p. 423.

75 A.G.F. Hoepner et al., *Environmental and ecological economics in the 21st century: An age adjusted citation analysis of the influential articles, journals, authors and institutions*, "Ecological Economics", 77, 2012, p. 205.

1.3. Future of ecological economics

In this part, the author reflects on the role of ecological economics and its future. She looks at recommendations stated by the researchers from the discipline and some points they call to address. Finally, she names journals and universities which are centres for the field's related research.

1.3.1. Future development of the field

The division into three schools mainstream new resource economists, the new environmental pragmatists and the social ecological economists proposed by C. Spash sets boundaries within the field. There are numerous smaller schools which compete with each other. From groups close to environmental economics which are linked to the Swedish Beijer International Institute of Ecological Economics and those emphasising interdisciplinary research at the European Society for Ecological Economics which they embrace numerous perspectives. The base for division is an approach towards methodology and scope of research.

There are numerous points where ecological economics significantly differ from the mainstream. But for the thematic difference, there is also other approach in research methods. Mainstream economics believe that technology improvement will solve the issue of non-renewable resources, ecological economists believe this is not the case. Therefore they highlight the precautionary approach[76] and add in their analyses additional type of capital: natural capital.

Various types of economics linked to the sustainable development tend to put emphasis on different kinds of research methods. Econometrics is widely used in the environmental economics, whereas in the ecological economics it is applied only in cases when uncertainty falls. However, this does not mean that the empirical analysis should be limited in this field, but used in a structural and ex-post perspective. Commonly used method is case study.[77]

The empiricism plays a major role in the framework of neoclassical environmental economics and ecological economics. Neoclassical economics concentrate on exchange of goods and services, market mechanisms, microeconomic approach, static analysis and treats environment as a assumed frontier[78]. It often considers issues of scarcity and pollution. The methods used

[76] R. Costanza, *What is ecological economics?*, "Ecological Economics", 1989, 1, p. 1-7.

[77] J. Ramos-Martin, *Empiricism in ecological economics: a perspective from complex systems theory*, "Ecological Economics" 46.3, 2003, p. 387.

[78] M. Ruth, *Integrating Economics, Ecology and Thermodynamics*, Kluwer, Dordrecht 1993.

include: optimisation for the natural resources management, assignment of the property rights for pollution and externalities to include them in the market mechanism by giving the prices[79].

On the other hand, ecological economics focuses on evolution of economics, structural changes, emerging novelties (e.g. technology) and various complex and adaptive systems[80]. Ecological economics assumes that new ecological problems are uncertain, unclear from the point of values, urgent and include high stakes[81]. Because of that, new approach is needed which is called: post-structural, post-modern, civic-science, post-normal science by various authors[82]. It does not state that current approach is no valid anymore or not applicable, but that new complex and uncertain problems cannot be solved with traditional methods only. It also assumes that objective reality does not exist as each researcher has her values and systems continuously change[83]. Therefore, rather than seek for the optimal policy, it strives to create common contextual understanding of the topic, by keeping actors involved in making decisions and allowing satisfactory agreement on the solution[84]. It is more important to guarantee the quality of procedure rather than the final result. It is also called shifting from result-oriented rationality to procedural rationality[85].

Empirical analysis has two options: a positivist approach and a phenomenological (interpretivist) approach. The former is preferred by the neoclassical environmental economists, whereas the latter is chosen by the ecological economists. First approach includes extrapolating past results into the future assuming that the system and internal relations do not change in time as well as functional relations between variables. Second approach says that linear deterministic models cannot be effective and the system and processes depend on the context[86]. However, sometimes the assumption of linear and constant parameters can be made, and then policies can be

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79 J. Ramos-Martin, *op. cit.* p. 389.

80 *Ibidem*, p. 390.

81 S.O. Funtowicz, J.R. Ravetz, *The worth of a songbird: ecological economics as a post-normal science*, "Ecological Economics", 1994, 10, pp. 197-207.

82 J. Ramos-Martin, op.cit, p. 391.

83 N. Denzin, Y. Lincoln, *Introduction: entering the field of qualitative research*, in: Denzen, N., Lincoln, Y. (ed.), *Handbook of Qualitative Research. Sage Publications*, London, 1994. I. Prigogine, I. Stengers, *Order out of Chaos*. Heinemann, London, 1984.

84 J. Ramos-Martin, op.cit, p. 391.

85 H.A. Simon, *Reason in Human Affairs*, Stanford University Press, Stanford 1983.

86 J. Ramos-Martin, op.cit, p. 392-393. Examples mentioned by J. Ramos-Martin include a model of resilience and empirical analysis for importance of fire in the self-organisation of semi-arid rangelands, the past distribution of consumer expenditure in the UK or in the Kuznets curve-related research.

recommended[87]. The key assumption is that forecasts on future and variables can be done when the variable or the system are close or at the attractor point which means that they are meta-stable or they continue well-established historic trend[88].

Many people took up the issues of ecological economics, from students searching for an alternative to mainstream economics of renowned professors and practitioners. By engaging in this discussion, all those groups become more aware of various aspects of nature, concepts and values[89]. One should not mistake deep ecological economics with deep ecology, which concentrates more on the philosophy[90].

There is the question of the role of economics. The environment often serves as a supplier of inputs (natural resources), necessary for the operation of economy. We assume thus that the economy acts as a superior in relation to the environment[91]. The response of society to environmental problems can be analyzed via economic tools. It helps to identify factors that deteriorate the state of environment, explain why and how they occur. Through economic models one can see the simplified version of reality, excluding chosen factors that blur the picture[92]. They map the holistic perspective postulated in the sustainable development.

What can urban scholars learn from ecological economists? Can ecological economists attempt to influence economic and environmental policies? The fields of ecological economics and urban studies seem to be unrelated when it comes to a subject, scope and scale. Urban researchers and ecological economists have a common goal to assist in designing public policy based on the research, often different from the conventional approach in their main fields. Despite the fact that ecological economics became popular in the world of academia, it was not present that much in the policymaking. According to Farley at al. this is due to inappropriate communication of the field goals in politics and science[93].

So far ecological economists had no political capital and skills to transform scientific problems into political debates which would lead to legislative actions

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87 *Ibidem*, p. 393.

88 *Ibidem*, p. 394.

89 A. Naess, *Shallow and deep, long-range ecology movement: summary*, "An Interdisciplinary Journal of Philosophy", 1973, 16, pp. 95-100. M. Faber, *How to be an ecological economist*, "Ecological Economics" 2008, 66, pp. 1-7.

90 L. Spash, *The shallow or the deep ecological economics movement?*, "Ecological Economics", 2013, 93.

91 P. Jeżowski, „Ekonomia środowiska a ekonomia ekologiczna", in: *Ochrona środowiska a Ekorozwój*, Oficyna Wydawnicza SGH, Warszawa 2000, p. 11.

92 T. Tietenberg, L. Lewis, *Environmental and natural resource..., op. cit.*

93 J. Farley et al., *Opening the policy window for ecological economics: Katrina as afocusing event*, „Ecological Economics" 63, 2007, pp. 344-354.

and later into regulations. The urban blight may be an en example where ecological economics can use their research to gain attention, put the topic to the public debate and stir it into creating law[94]. As Farley et al. said "ecological economics (...) is too important to remain cloistered in academia".

The future of ecological economics will be also linked to what economists think about the environment and the way they do it. D. Fullerton and R. Stavins name a few myths that commonly appear in economics[95]. Even in mainstream approach to nature economics they can be put down, but it is really ecological economics which serves as a solution. It is said that economists believe in market forces solving all the problems. In relation to the environment, it is quite the opposite, as environmental economists are particularly interested in externalities and market failures, as well as proper legislation. Ecological economists would go even further, assuming that working markets are an exception in this field. Another myth is that if there is a market problem, there must be a market solution. Here, we have ecological economics which proposes trans disciplinary approach merging knowledge from different fields. Much of its postulates reaches law and policy. Next assumption says that even non-market solutions must be translated into price indicators. Again, ecological economists take different approach relating it for instance to happiness. The thesis that economists mostly care about efficiency rather than distribution is also taken up by this field, as much literature was devoted to resource allocation, etc. It is important to highlight that economists themselves are responsible for the way they are perceived and they shape their image. Certainly, ecological economists start to change the portrait of heartless economy concentrated on wealth creation. By integrating more social and natural sciences approach, they can foster communication, better understanding and, as a consequence, better inclusion of their ideas into reality.

C. Spash presents a vision for ecological economics in the future. He divides it into ontological, epistemological, methodological and ideological aspects[96]. Out of them, the most significant examples related to methodology and ideology seem to be the following:

- Ethical positions in the research should be made clear and neutrality rejected.
- Both human and nature should be considered.
- Actions towards inequity and overgrowth should be taken.

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94 *Ibidem*.

95 D. Fullerton, R.N. Stavins, *How Do Economists Really Think About the Environment?*, "Discussion Paper 98", 29 April 1998, Resources for the Future.

96 C.L. Spash, *New foundations for ecological economics*, "Ecological Economics", 77, 2012, p. 45.

- Consumption should be diminished.
- Democratic principles and international human rights should be applied.
- Methodological pluralism without structure is not knowledge or understanding.
- Structured pluralism requires cooperation among the fields and methods.

He highlights that "ecological economics can change the world by creating better understanding of the structure of the social and environmental reality in which we live and communicating its finding to help achieve that change. Ecological economists should act personally in ways consistent with their environmental and social values"[97].

Another voice asking for ecological economics future are B. Anderson and M. M'Gonigle on the base of climate change related articles[98]. According to them:

- The future of ecological economics is problematic.
- In the past, methodological pluralism most often led to using neoclassical approach.
- There is an imbalance between the pre-analytical vision assumed and current methodology use.
- It will have to deal with internal contradictions and re-invent itself to match current situation. With no actions it will come back to mainstream economics methodologies and imperatives.
- "Today ecological economics is stuck in the embrace of a managerialism bounded by a neoclassical rationality"[99].

A number of academic journals is devoted to this field, sometimes linked with environmental economics as well. As of now, the most influential journals in the field of environmental and ecological economics are: Ecological Economics, Energy Economics, Journal of Environmental Economics and Management and American Journal of Agricultural Economics[100].

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97 *Ibidem*.

98 B. Anderson, M. M'Gonigle, *Does ecological economics have a future? Contradiction and reinvention in the age of climate change*, "Ecological Economics" 84, 2012, pp. 37-48.

99 *Ibidem*, p. 44.

100 A. G.F. Hoepner et al., *Environmental and ecological economics in the 21st century: An age adjusted citation analysis of the influential articles, journals, authors and institutions*, "Ecological Economics", 77, 2012, p. 202.

Summary

This chapter focuses on ecological economics and other economics subfields related to the nature. The author considers the scope, history and meaning of ecological economics. She explores various approaches to link economy and environment by comparing ecological economics, environmental economics, green economy and sustainable economics. The second part shows differences between various schools of ecological economics. Finally, it discusses differences between mainstream and ecological approach towards economy. In the third, final section the author briefly highlights the possibilities of field's evolution.

Bibliography

Advancing Ecological Economics Theory And Practice, http://www.esee2011.org/index.php?p=22, 14.06.10.

Aguilera-Klink F., *Some notes on the misuse of classic writings in economics on the subject of common property*, "Ecological Economics", 1994, 9 (4).

Aldy J.E., *An Environmental Kuznets Curve Analysis of U.S. State-Level Carbon Dioxide Emissions*, "The Journal of Environment Development", 14, 2005.

Anderson B., M. M'Gonigle, *Does ecological economics have a future? Contradiction and reinvention in the age of climate change*, "Ecological Economics" 84, 2012.

Arrow K., B. Bolin, R. Costanza, R. et al., *Economic Growth, Carrying Capacity, and the Environment*, "Science", 1995, 268.

Ayres R.U., "Application of Physical Principles to Economics," in R.U. Ayres (ed.) *Resources, Environment, and Economics: Applications of the Materials and Energy Balance Principle,* New York: John Wiley, 1978.

Ayres R.U., and A.V. Kneese, *Production, consumption and externalities*, "American Economic Review", 1969, 59, pp. 282-297. A. Kneese, R. Ayres, R. d'Arge, *Economics and the environment: a materials balance approach*, "Resource for the Future", Washington DC, 1970.

Bartelmus P., *Use and usefulness of sustainability economics*, "Ecological Economics", 2010, 69.

Baumgärtner S., M. Quaas, *What is sustainability economics?*, "Ecological Economics", 2010,69.

Cleveland C.J., *Biophysical Economics: Historical Perspective and Current Research Trends*, "Ecological Modelling", 1987, 38.

Costanza R., *Embodied Energy and Economic Valuation*, Science,1980, 210.

Costanza R., H.E. Daly, J.A. Barthlomew, *Goals, agenda and policy recommendations for ecological economics*, in: R. Costanza (ed.), *Ecological Economics: the science and management of sustainability,* New York, Columbia University Press1991.

Costanza R., L. Wainger, C. Folke, *Modeling Complex Ecological Economic Systems: Toward an Evolutionary, Dynamic Understanding of People and Nature*, "BioScience", 1993, 43, 8.

Costanza R., *What is ecological economics?*, "Ecological Economics", 1989, 1.

Daly H.E., "Introduction," in H.E. Daly (ed.) *Toward a Steady-State Economy,* San Francisco: W.H. Freeman, 1973.

Daly H.E., *Allocation, Distribution, and Scale: Towards an Economics That Is Efficient, Just, and Sustainable*, "Ecological Economics", 1992, 6.

Daly H.E., *Beyond Growth,* Boston, Beacon Press 1996.

Daly H.E., *Steady-state economics*, Washington DC, Island Press, 1991.

Denzin N., Y. Lincoln, *Introduction: entering the field of qualitative research*, in: Denzen, N., Lincoln, Y. (ed.), *Handbook of Qualitative Research*. Sage Publications, London, 1994.

Environmental Economics, National Bureau of Economic Research, http://www.nber.org/, 11.04.2014.

Europe's environment An Assessment of Assessments 3 Green economy, http://www.eea.europa.eu/publications/europes-environment-aoa/chapter3.xhtml#note22, 12.04.2014.

Faber M., *How to be an ecological economist*, "Ecological Economics" 2008, 66.

Farley J. et al., *Opening the policy window for ecological economics: Katrina as a focusing event,* „Ecological Economics" 63, 2007.

Fullerton D., R. N. Stavins, *How Do Economists Really Think About the Environment?, "*Discussion Paper 98", 29 April 1998, Resources for the Future.

Funtowicz S.O., J.R. Ravetz, *The worth of a songbird: ecological economics as a post-normal science*, "Ecological Economics", 1994, 10.

Georgescu-Roegen N., *The Entropy Law and the Economic Problem*, in: H.E. Daly and K. Townsend (ed.) *Valuing the Earth: Economics, Ecology, Ethics,* Cambridge, Mass MIT Press, 1993.

Goodland R., "The Case That the World Has Reached Limits" in: R. Goodland, H.E. Daly and S.ElSarafy (eds.) *Population, Technology and Lifestyle: The Transition to Sustainability,* Washington, D.C, Island Press. 1992.

Hargrove E., *Foundations of environmental ethics*, Englewood Cliffs, Prentice Hall, New Jersey, 1988.

Hoepner A.G.F. et al., *Environmental and ecological economics in the 21st century: An age adjusted citation analysis of the influential articles, journals, authors and institutions*, "Ecological Economics", 77, 2012.

Howarth R.B*., Editorial. Ecological Economics*, 2008, 64.

Hussen A.M., *Principles Of Environmental Economics: Economics, ecology and public policy*, London & New York, 2000.

Ingebrigtsen S., O. Jakobsen, *Utopias and realism in ecological economics – Knowledge, understanding and improvisation*, "Ecological Economics", 2012, 84.

Klaassen G.A.J., J.B. Opschoor, *Economics of sustainability or the sustainability of economics: different paradigms*, "Ecological Economics", 1991, 4.

Korporowicz V., *Ekonomia środowiska – współczesna nauka z tradycjami*, „Studia Ecologiae et Bioethicae" 1/2003.

McGinn A.P., *Rocking the Boat: Conserving Fisheries and Protecting Jobs*, "Worldwatch Paper" 142,

Mirowski P., *Energy and Energetics in Economic Theory: A Review Essay*, "Journal of Economic Issues", 1988, 22.

Munda G., *Environmental Economics, Ecological Economics, and the Concept of Sustainable Development*, UniversitatAutonoma de Barcelona, Dept of Economics and Economic History.

Naess A., *Shallow and deep, long-range ecology movement: summary*, "An Interdisciplinary Journal of Philosophy", 1973, 16.
Negacz K., A. Para, *Ecomuseum as a sustainable product and an accelerator of the regional development. Case of the Subcarpathian Province*, "Economic and Environmental Studies", Vol. 14, No.1 (29/2014), March 2014.
Norgaard R., *Environmental economics: an evolutionary critique and a plea for pluralism*, "Journal of Environmental Economics and Management", 1985, 12.
Norgaard R.B., *The Case for Methodological Pluralism*, "Ecological Economics", 1989, 1.
Odum E.P., *Ecology and our endangered life-support systems*, Sunderland, MA Sinuaer Associates, 1989.
Odum H., E. Odum, *Energy Basis for Man and Nature,* New York, McGraw-Hill, 1976.
Opschoor J.B., J., van der Straaten, *Sustainable development: an institutional approach*, "Ecological Economics" 1993, 7(3).
Ostrom E., *Governing the Commons*, Cambridge University Press, Cambridge, 1990.
Pearce D.W. et al., *Blueprint for a Green Economy,* 1989.
Pearce D.W., K.R. Turner, *Economics of natural resources and the environment*,New York, Harvester Wheatsheaf, 1990.
Pearce D.W., *Foundation of Ecological Economics*, "Ecological Modelling", 1987, 38.
Pearce D.W., G.D. Atkinson, *Capital theory and the measurement of sustainable development: an indicator of 'weak' sustainability*, "Ecological Economics" 1993, 8.
Prigogine I., I. Stengers, *Order out of Chaos*. Heinemann, London, 1984.
Ramos-Martin J., *Empiricism in ecological economics: a perspective from complex systems theory*, "Ecological Economics" 46.3, 2003.
Report of the World Commission on Environment and Development, United Nations, General Assembly Resolution 42/187, 11 December 1987, http://www.un.org/documents/ga/res/42/ares42-187.htm, 13.04.2014.
Rose A., H. Folmer and P. Nijkamp, *Walter Isard's Contributions to Environmental Economics and Ecological Economics*, "International Regional Science Review", 11 Oct 2012.
Ruth M., *A quest for the economics of sustainability and the sustainability of economics*, "Ecological Economics", 2006, 56.
Ruth M., *Integrating Economics, Ecology and Thermodynamics*, Kluwer, Dordrecht 1993.
Shogren H.N.J., B. White*, Environmental Economics in Theory and Practice*, Palgrave, London, 2007.
Simon H.A., *Reason in Human Affairs*, Stanford University Press, Stanford 1983.
Söderbaum P., *Neoclassical and institutional approaches to development and the environment*, "Ecological Economics", 1992, 5.
Sollner F., *A reexamination of the role of thermodynamics for environmental economics*, "Ecological Economics", 1997, 22.
Spash C.L., *New foundations for ecological economics*, "Ecological Economics", 2012, 77.
Spash C.L., *The development of environmental thinking in economics*, "Environmental Values", 1999, 8.4.
Spash C.L., *The shallow or the deep ecological economics movement?*, "Ecological Economics", 2013, 93.
Spooner B., *Ecology in development: a rationale for three-dimensional policy*, The United Nations University, Tokyo, 1984.
Theory and Measurement of Economic Externalities, ed. S.A.Y. Lin, Academic Press, New York, 1976.

Tietenberg T., L. Lewis, *Environmental and natural resource economics*, Pearson, Addison Wesley Boston San Francisco New York, 2009.

Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication, UNEP, 2011, http://www.unep.org/greeneconomy, 12.04.2014.

Van den Bergh J., *Ecological Economics: Themes, Approaches, and Differences with Environmental Economics*, "Regional Environmental Change", 2 (1), 2001.

Van den Bergh J., *Externality or sustainability economics?*, "Ecolological Economics, 2010, 69.

Venkatachalam L., *Environmental economics and ecological economics: Where they can converge?*, "Ecological Economics", 2007, 61.2.

Washington, D.C., Worldwatch Institute,1998.

Weaver R.C., *Re-framing the urban blight problem with trans-disciplinary insights from ecological economics*, "Ecological Economics" 90, 2013.

Witwicki W., *Platon. Uczta*, PWN, Warszawa 1988.

Woś A., *Ekonomika odnawialnych zasobów naturalnych*, SGH, Warszawa 1993.

Young J.T., *Is the Entropy Law Relevant to the Economics of Natural Resource Scarcity*?, "Journal of Environmental Economics and Management" 1991, 21.

Chapter 2

Concept of urban entrepreneurship

Ewelina Szczech-Pietkiewicz

Introduction

Following chapter introduces the concept of urban entrepreneurship and links it to the economic growth of urban areas in the context of economic theories and empirical studies. The special relation of entrepreneurship and urban areas will be explained in order to justify cities as the most adequate territories for business. Moreover, defining the phenomena will create grounds for presenting the unique characteristics of entrepreneurial activity in cities in further parts of the monograph. Determinants included in this chapter vary from traditional agglomeration advantages, well established in urban studies literature and research, to more recent concepts of entrepreneurial capital and culture, as factors crucial to localization choices of entrepreneurs.

2.1. Entrepreneurship and urban growth

Ever since the neoclassical growth theory was introduced by Richard Solow[101] and traditional factors of production, capital and labour, were identified as the source of economic growth, a wealth of new models explaining development has been created. Endogenous growth theory added knowledge to

[101] Solow R. (1956), *A contribution to theory of economic growth*, Quarterly Journal of Economics, vol. 70(1), pp. 65-94.

the traditional factors[102] and more recently softer factors, like social capital, are being identified[103].

Building on previous theoretical explanations of growth, with special attention to the phenomena of Solow's technical residual (associated with technical progress), empirical prove for entrepreneurship as mechanism facilitating spillover of knowledge was given by J. Acs et al.[104]. The study, based on cross-section time-series panel of country-specific measures of entrepreneurship, suggested that countries with greater degree of entrepreneurial activity observe higher rates of economic growth. While not taking knowledge investment as a factor of economic growth (most likely assumed in policy-making), research proved that entrepreneurship can serve as a conduit for the spillover and commercialization of knowledge, and therefore be conducive to economic growth. Other model in this respect, building on the assumption that entrepreneurs serve as an agent of knowledge spillover from incumbent firms to new firms[105], also proved that expected return on entrepreneurial activity tends to be greater in agglomerations and spatial clusters because of the availability of tacit knowledge.

Urban studies research has also identified entrepreneurial activity as one of the determinants of economic growth in urban and regional economies[106]. Well-established models of Porter[107] and Saxenian[108] attribute this relation to innovative entrepreneurs, Gleaser[109] to the existence of local entrepreneurship, while others see it as a mechanism in the context of knowledge economy[110]. All in all, wealth of studies prove that cities are appropriate units to analyse growth in the context of entrepreneurship.

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102 Romer P.A. (1985), *Increasing returns and long run growth*, Rochester Center for Economic Research, Working Paper no. 27, October and Lucas, R.E. (1988) *On the mechanics of economic development*, Journal of Monetary Economics, vol. 22(1), pp. 3-39.

103 (Putnam 1993, 2002).

104 (Acs et al. 2010).

105 Rahman, M., Fatima, N. (2011) *Entrepreneurship and urban growth: dimensions and empirical models*, Journal of Small Business and Enterprise Development, vol. 18(2), pp. 608-626.

106 Rosenthal, S.S., Strange W.C. (2009) *Small establishments/big effects: agglomeration, industrial organization, and entrepreneurship* in: Glaeser, E.L. (ed) Agglomeration Economics, National Bureau of Economic Research, http://www.nber.org/books/glae08-1 [accessed 8.04.2014] and Rosenthal, S.S., Strange W.C. (2009), *op. cit.*

107 Porter, M. (1990) *The Competitive Advantage of Nations*, New York: The Free Press.

108 Saxenian, A. (1994) *Regional Advantage: culture and Competition in Silicon Valley and Route 128*, Cambridge: Harvard University.

109 Glaeser, E.L. (2007a) *The economic approach to cities*, Working Paper no. 13696, National Bureau of Economic Research, http://www.nber.org/papers/w13696 [accessed 5.04.2014].

110 Acs, J.Z., Armington, C. (2004) *Employment growth and entrepreneurial activity in cities*, Regional Studies, vol. 38(8), pp. 911- 927.

Empirical studies also add to this strand of argumentation. A test of theoretical models relating entrepreneurship to growth, executed by Shrestha, Goetz and Rupasingha[111] found that economic growth in the 5-year period after a new firm's creation, pushes a net job creation an additional 0.1 per cent if the enterprise is localized in metropolitan area (study carried out in the US regions). According to Rahman and Fatima's[112] findings local entrepreneurial activity in a city can generate economic growth, as the new ventures take advantage of the local externalities and transform them into profitable market activity; other factors identified in this study included human capital characteristics of a city. A more generalized prove of positive effect of urban context for the economic growth was presented by Porter[113] in his cluster theory.

2.2. Determinants of urban entrepreneurship

If typology entrepreneurial research is built on preferred unit of analysis, traditionally two types are being considered: focused on the industrial level, and focusing on businesses and their macro-economic environment relations. There has been recently, however, new dimension of research added, namely spatial, building a body of research on different territorial levels of data. In addition to traditional inter-country comparisons, regional and city level studies are being conducted. Based on these findings[114], and the assumptions that businesses work in a certain economic, social and institutional setting and need collaborators and customers, it has been acknowledged that to understand determinants of entrepreneurship the level of region or city is more appropriate than national.

Following chapters will give a brief overview of factors enhancing entrepreneurship in cities and regions. Hypothesis will be testes regarding

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111 Shrestha, S.S., Goetz S.J., Rupasingha, A. (2007) *Proprietorship formation and U.S. job growth*, The Review of Regional Studies, vol. 37, pp. 146-168.

112 Rahman, M., Fatima, N. (2011).

113 Porter M. (1996) *Competitive Advantage, Agglomeration Economies, and Regional Policy*, International Regional Science Review, Vol. 19, Nos. 1-2, 85-90.

114 Reynolds, P.D., Miller, B., Maki, W.R. (1995) *Explaining regional variation in business births and deaths: U.S. 1976-88*, Small Business Economics, vol. 7(5), pp. 389-407; Audretsch, D.B., Fritsch, M. (2002) *Growth regimes over time and space*, Regional Studies, vol. 36(2), pp. 113-124; Rosenthal, S.S., Ross, A. (2010) *Violent crime, entrepreneurship, and cities*, Journal of Urban Economics, vol. 67(1), pp. 135-149; Doms, M., Lewis, E., Robb, A. (2010) *Local labor force education, new business characteristics, and firm performance*, Journal of Urban Economics, vol. 67(1), pp. 61-77; Belitkski, M., Korosteleva, J. (2010) *Entrepreneurial activity across European Cities*, Frontiers of Entrepreneurship Research, vol. 30(4), article 12.

most commonly analysed factors in literature, as well as more recent developments in the research of urban entrepreneurship. Determinants described below do not exhaust the whole wealth of factors analysed in the literature of subject (i.e. urban entrepreneurship), which, as current as the subject is, provides plathera of theoretical explanations for business location decision.

Interesting classification of urban entrepreneurship determinant's analysis was provided by Audretsch et al.[115], giving ground for more structured framework of analysis. The framework consists of six elements:

1. Demand side: business opportunities are created by consumer's needs and demand;
2. Supply side: entrepreneurs potential to answer the consumer's needs and use business opportunities;
3. Individual decision making: personal motivation which impacts individual tendency to undertake entrepreneurship;
4. Actual and equilibrium rates: natural (optimal) and new business dynamism in the given context;
5. Institutions: policies and external conditions created by public sector that influence business activity;
6. Culture: societal conditional that influence individual decisions to engage in entrepreneurship.

Following part will describe supply side of the entrepreneurial activity in the form of labour characteristics (demographics, education) and natural cost advantage. Demand in this simplified analysis will be represented by agglomeration advantages – model formulated almost 100 year ago[116], yet still valid when it comes to clustering of entrepreneurial activity in cities. Individual decision making (motivation to engage in business), culture and institutions impact on location decisions in urban settings will be briefly described as well.

2.2.1. Demographics

The first hypothesis tested by theory when it comes to supply side of urban entrepreneurship and differentiation of business location decisions concerns labour characteristics like age and education level. Observation proves that better educated people are more willing to succeed as entrepreneurs, while

[115] Audretsch, D.B., Fritsch, M. (2002) *Growth regimes over time and space*, Regional Studies, vol. 36(2), pp. 113-124.

[116] Marshall, A. (1920) *Principles of Economics*, London: MacMillan and Co.

older people might have accumulated more capital and experience to support their undertaking.

Generally, higher self-employment rates (which will all the imperfections are used as measure of entrepreneurship), are found in urban settings with older and better-educated population. This view is widely represented in policy-making aimed at attracting well-educated groups to cities and regions, created on assumption that they will contribute largely to urban economic growth. Such approach is also supported by a more general conception of Florida attributing city's growth to 3 T's: talent, technology and tolerance, "talent" being proxy for high levels of education.

In an analysis of these factors impact on the level of entrepreneurship (represented by self-employment), performed by Gleaser[117], controlling for individual characteristics could explain a significant amount of the variation in entrepreneurship rates across metropolitan areas. A regression analysis, with raw standard deviation at 0.13, and standard deviation of the average residual at 0.009, variance of the corrected rates was slightly less than one-half of the variance of uncorrected rates. Therefore, controlling for individual characteristics and industry mix explained one-half of the variation in self-employment rates across metropolitan areas. This was by far the most important indicator of spatial variation of business activity found out by the research.

Other studies supported the hypothesis of positive relation between better-educated population and number of enterprises. Doms et al.[118] indicated that entrepreneurs prefer to choose locations with access to large supply of highly educated workforce, while Reynolds et al.[119] found that presence of educated, mid-career adults is a significant factor enhancing business start-ups. Models tested by García[120] (2014) also supported hypothesis of positive relation between higher participation in tertiary education and business creation. The 'tertiary education and high employment' index yielded positive coefficients with p-values less than 1% in all regressions tested. This indicates more active business creation in cities with high numbers of university students (used as proxy for high level of education).

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117 Glaeser, E.L. (2007b) *Entrepreneurship and the city*, Working Paper no. 13551, National Bureau of Economic Research, http://www.nber.org/papers/w13551 [accessed 6.04.2014].

118 Doms et al. 2007.

119 Reynolds, P.D., Miller, B., Maki, W.R. (1995) *Explaining regional variation in business births and deaths: U.S. 1976-88*, Small Business Economics, vol. 7(5), pp. 389-407.

120 García, A.B. (2014) *Analyzing the determinants of entrepreneurship in European cities*, Small Business Economics, vol. 42, pp. 77-98.

The results of such analysis are, however, diversified in cross-country comparisons with growing inclination of well-educated population to paid employment as opposed self-employment in countries with lower GDP per capita[121].

2.2.2. Natural cost advantages

Natural cost advantage (or, as called by E. Glaser, natural advantage) is attributed to the fact that some geographical regions possess better conditions for particular industry development than others. Therefore, entrepreneurs' location decisions will be influenced by access to natural conditions (land characteristics, water, climate, natural resources). In a simple example, a decision of wine maker will be determined (as one of the prevailing determinants) by climate and land conditions, allowing for vine cultivation.

In quantitative study of 16 state-level characteristics that afford natural advantages, Ellison and Glaeser[122] estimated that 20% of observed state-industry manufacturing activity can be explained through these exogenous local factors. However, farther and deepened research proved that the observed 20% of geographic concentration can be explained by small set of advantages. Authors therefore agree that spatial clustering in urban areas much be explained by localized intra-industry spillover (explained further in 'agglomeration advantage' part of the chapter).

2.2.3. Agglomeration advantages

Location-specific economies of scale are called agglomeration economies. The notion was introduced, with a description of its sources and their scheme, by Alfred Marshall[123]. Generally, agglomeration economies are understood as external economies, which are independent of a single firm, but which accrue to all the firms located in the same area[124]. According to the typology of urban entrepreneurship determinants used in this chapter, agglomeration advantages will represent the supply-side factors.

Three main agglomeration economies were defined by Marshall. They concern following phenomena:

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121 Belitkski, M., Korosteleva, J. (2010), *op. cit.*

122 Ellison, G., Glaeser, E.L. (1999) *The geographic concentration of industry: does natural advantage explain agglomeration?* The American Economic Review, vol. 89(2), pp. 311-316.

123 Marshall, A. (1920), *op. cit.*

124 McCann 2013, p. 51.

- Local skilled labour pool: by clustering in a location, firms have better access to labour resources, which facilitates finding labour of required qualifications. Clustering also provides workers with better opportunities. Advantages of spatial clustering in this context come not only from the greater accessibility of labour pool but also from the fact that the labour force is more likely to have experience in the particular industry what minimizes the costs of retraining.
- Local non-traded inputs: entrepreneurs have access to large pool of supporting branches companies and sub-contractors, as well as business support infrastructure (communication, capital resources). Supporting sectors often also cluster in urban areas for their large markets. The advantage from clustering in agglomeration in this case comes from the fact that firms can jointly use available service at lower cost to each market participant. The cost of setting up common services (such as software or legal service) will be spread over large number of local customers. Important factor in this type of agglomeration economies is also the geographical proximity of customers and supplier – the notion of reduced shipping costs being the core of the new economic geography theory. The same proximity is also one of the sources of competitive advantage and innovation as defined by Porter[125].
- Knowledge spillovers: clustering enhances knowledge and information exchange, both formal and informal, also by sharing experienced employees. This advantage is particularly important for high value-added production and services. Spatial clustering in one location also gives opportunity for tacit knowledge (incomplete and share on non-market basis) to be spread.

A simplification of the agglomeration economies was provided by Duranton and Puga[126] in a process called „learning, sharing, and matching" which does not only catches the very essence of urban spatial clustering advantages but also adds a more dynamic dimension of the phenomenon. By emphasizing the process related aspects of the agglomeration economics, this approach stresses the importance of simultaneous interaction and exchange.

Spatial clustering in one location, in this case urban area, factors like market accessibility, labour and capital access, communication, is by all means attractive for entrepreneurship. However, the degree of impact of these determinants for the location choices is diversified, mainly by level of economic development of

[125] Porter, M. (1990), *op. cit.*

[126] Duranton, G., Puga, D. (2004) *Micro-Foundations of Urban Agglomeration Economies*, in: Henderson, J.V., Thiese, J.-F. (eds), *Handbook of Regional and Urban Economics*, Vol IV: Economic Geography, Amsterdam: Elsevier.

the whole economy and characteristics of business activity in question. Hence, in developed economies – the importance of transport accessibility or communication and business support infrastructure is lower, then in the case of an economy where a city (capital city most likely) is the only area providing business sector with its necessary services. Moreover, agglomeration economies impact is verified by level of a company's production advancement, e.g. by different requirements regarding specialized work force. In the light of decreasing transport costs (and decreasing importance of transport costs for business activity), Porter's notion of 'cluster's agglomeration economies' (as opposed 'city's agglomeration economies') seems interesting. In this conception Porter stresses that gathering economic activity in one area is characteristic rather for form of business activity (i.e. cluster) than to a location (i.e. urban area).

With regards to agglomeration economies, discussion over this phenomena has to be mentioned (e.g. that between Porter and Markusen at International Regional Science Review). Critique of agglomeration economies questions the very existence of this phenomena or at least explains it as a mechanism of competitive business advantage turning to comparative advantage of whole territory.

Yet, even in the context of decreasing impact of traditional factors of production, less tangible determinants, like cognitive, social, institutional and cultural, spatially unlimited themselves, still require interaction of companies and individuals acting within a territory. Therefore, as Saxenian proves it, even the most technologically advanced production cannot be performed with no regards to the territorial aspect.

Empirical analysis of agglomeration economies' impact on different sectors was performer by Alcácer and Chung (2010). Their study attempted to verify a hypothesis that larger extend of labour force, knowledge and sub-contractors use in a branch, the larger impact of corresponding agglomeration economies. In the process of verification they estimated various factors of production input in the production process. The results proved that the highest input was observed in following factors: material, capital, labour and R&D (in that order). By comparing those factors to agglomeration economies, they came with following hierarchy: suppliers (as source of material), work force accessibility and access to knowledge. Interestingly, technologically advanced sectors observed the same hierarchy of factors of production, and traditional agglomeration economies proved to be more important than, for example, access to research and development results.

2.2.4. Entrepreneurial spirit as form of social capital

Entrepreneurial capital notion is built upon works on social capital in general. Defining social capital as[127]: "Whereas physical capital refers to physical objects and human capital refers to the properties of individuals, social capital refers to connections among individuals – social networks and the norms of reciprocity and trustworthiness that arise from them", emphasizes the requirement of embeddedness in network of social relations as opposed working in isolation. Therefore, the phenomena of social capital overarches both factor endowment and networks of cooperation in economic performance.

Entrepreneurial capital is also rooted in Saxenian's works[128] on the clustering of economic activity and good performance of enterprises located in Silicon Valley. Determinants of good economic performance in this area are seen in networking services which would be unaffordable for individual firms otherwise, in regional institutions encouraging networking, and in informal exchange of information, on top of traditional factor endowment (skilled labour, suppliers and information).

Therefore, entrepreneurial capital can be defined as[129]: "the capacity of a society to generate new firms". The notion puts much emphasis on the action, a process, or an activity, which differentiates it from the usual notion of entrepreneurship.

The hypotheses of entrepreneurial capital's existence, has positive impact on economic performance and is spatially bounded were all tested by Audretsch and Kleibach[130] on a sample of 327 West-German regions. In their model number of new enterprises start-ups was used as proxy for the entrepreneurship capital. Three groups of start-ups were tested: start-ups in all industries, high-technology start-ups, and start-ups in ICT industries, in order to draw conclusions for different spheres of policy-making. The empirical results proved that a region's entrepreneurship capital does increase region's labour productivity, with elasticity at about 0.1 (which translated to 1% increase in labour productivity for every 10% increase in entrepreneurship capital). Other calculations by Authors brought even more interesting results, like the fact that estimated impact of research and development input is at about 1/4 to 1/3 of

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127 (Putnam, 2000, p. 19).

128 Saxenian, A. (1994) *Regional Advantage: culture and Competition in Silicon Valley and Route 128*, Cambridge: Harvard University.

129 Audretsch, D.B., Keilbach, M. (2005) *Entrepreneurship capital and regional growth*, The Annals of Regional Science, vol. 39(3), pp. 457-469.

130 Audretsch, D.B., Keilbach, M. (2005), *op. cit.*

the impact of entrepreneurial capital for labour productivity. In terms of policy-making that means that instruments enhancing region's or city's entrepreneurship are 3 to 4 times more effective than instruments supporting R&D. An argument in favour of R&D is, however, also found in the model, as entrepreneurship capital's impact is positive and immediate, yet no prove of its persistence was found.

As Audretsch's and Kleibach's models were also tested both for urban and rural areas, conclusions can be made for urban entrepreneurship. The impact of R&D and risk-oriented measures of entrepreneurship capital was found four times larger in cities as compared to rural areas. Those measures also have a long-term impact on region's economic performance but interestingly – only in densely populated urban regions.

As entrepreneurship capital means the capacity of a society to generate new firms, it also involves creativity. Traditionally, literature factors such as unemployment, population density, human capital endowment, availability of financial source, to be influential in regional variation of economic performance. However, there is also aspects related to social habitat that start to gain ground in academic discussion over sources of regional growth variation. Among them, there is research suggesting that cities act as 'incubators' of creativity and innovation. Building on works of Par et al.[131], Jacobs[132], and Lucas[133], an qualitative estimation of entrepreneurship and creativity relation in spatial dimension was provided by Lee, Florida and Acs[134]. In their model where Metropolitan Statistical Areas (MSAs) and Primary Metropolitan Statistical Areas (PMSAs) was explained by indicators like: firm birth data, creativity and diversity indices, human capital and labour market data. The analysis proved that entrepreneurship in urban settings is most closely correlated with the Creativity Index, at the level of 0.515, while other significant factors include: human capital (0.476) and the Diversity Index (0.332). Other interesting from the urban point of view results brought in this research suggested that population growth rate is more important than the size of region in explaining regional variation of new firms formation.

131 Par et al. 1925.

132 Jacobs 1961.

133 Lucas, R.E. (1988) *On the mechanics of economic development*, Journal of Monetary Economics, vol. 22(1), pp. 3-39.

134 Lee, S.Y., Florida, R., Acs, Z. (2004) *Creativity and entrepreneurship: a regional analysis of new firm formation*, Regional Studies, vol. 38(8), pp. 879-891.

2.2.5. Culture and institutions (State sector)

In economic terms of urban development, culture and institutions supporting entrepreneurship may be interpreted as a form of agglomeration economies[135]. In this context, a vibrant private sector may be a determinant of institutional support for additional entry or for building social structures for entrepreneurship. According to this approach, institutions such as business support services, educational entities or financiers may tent to choose locations with high level of enterprise concentration. When it comes to culture, according to Glaeser and Kerr[136] "an agglomeration of entrepreneurship may increase the social returns to taking risk and reduce the stigma associated with entrepreneurial failure".

A more precise hypothesis regarding institutions – entrepreneurship relation was set in Baumol's theory of productive and unproductive entrepreneurship[137]. He assumes that existence that provide secure property rights like fair judicial system, contract enforcement, as well as effective limits on governments's ability to transfer wealth through taxation system, creates suitable environment for innovative individuals to engage in productive entrepreneurship (i.e. activities that create wealth). Otherwise, without good-quality institutions, those same individuals channel their creativity towards manipulation of political and legal system to capture transfers of existing wealth, through means like lobbying or lawsuits (i.e. unproductive entrepreneurship). Therefore, strong institutions support productive market activities, whereas weak institutional system encourages unproductive political and legal activities.

An empirical and quantitative analysis of this theory was given by Sobel[138] in a model of ordinary least squares regressions with both productive and unproductive entrepreneurship as independent variables.

Analysis of regressions run for all continental American states proved that a state with a one unit higher institutional quality score is expected to have $32 larger per capital venture capital investments (39% higher than US average), 8.2 additional patents per 100,000 residents (increase of 36.6% as oppose the average), 4.2 percentage point higher rate of growth in self-employment activity, and 7 to 8% difference in establishment birth rates (both total and large).

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135 Glaeser, E.L., Kerr, W.R. (2009) *Local industrial conditions and entrepreneurship: how much of the spatial distribution can we explain?* Journal of Economics and Management Strategy, vol. 18(3), pp. 623-663.

136 Glaeser, E.L., Kerr, W.R. (2009), p. 644.

137 Baumol, W.J. (1990) *Entrepreneurship: productive, unproductive and destructive*, Journal of Political Economy, vol. 98(5), pp. 893-921.

138 Sobel, R.S. (2008) *Testing Baumol: Institutional quality and the productivity of entrepreneurship*, Journal of Business Venturing, vol. 23(6), pp. 641-655.

On the other hand, the study proved that a state with one unit higher score on institutional quality is predicted to have fewer measured political interest group organizations and ca. 60% (depending on variable) reduction in unproductive entrepreneurial activity. As far as unproductive legal entrepreneurship is concerned, it is estimated at 6.2 units lower or 11% in a state with one unit higher institutional quality score.

Overall, Sobel's analysis proved that there is uniformly significant, both statistically and economically, relation of institutional quality and both productive and unproductive entrepreneurship, and the relation follows the direction assumed in Baumol's theory.

Final Remarks

The chapter discusses bases of the concept of urban entrepreneurship – starting from the definition of the concept, through the overview of its relation with economic growth to the detour of various determinants. As presented above, regional differentiation of entrepreneurship level can be attributed to factors associated to region's (city's) endogenous characteristics (like resources endowment), as well as influenced by policy-making. All in all, however, they create significant determinant of economic growth, as studies show that ca. one-third of differences in economic growth rates can come from differences in entrepreneurial activity.

Determinants of local entrepreneurship were presented in the chapter in both qualitative and quantitative perspective, in order to allow for policy recommendations in further parts of the monograph. Building in results of quantitative analysis, allows for discussion over public interest vs. private interest in urban entrepreneurship and modes of governance and cooperation in this sphere.

The description of the institutional factors in encouraging entrepreneurship in urban space gives grounds to develop the issue of city's authorities cooperation with companies. Further chapters will built on this knowledge, describing – both theoretically and practically – chosen modes of such cooperation. Implications on institutional quality of urban entrepreneurship environment and policy making will also be drawn from the quantitative study of Sobel on productive and unproductive entrepreneurship.

Bibliography

Acs, J.Z., Armington, C. (2004) *Employment growth and entrepreneurial activity in cities*, Regional Studies, vol. 38(8), pp. 911-927.

Acs, Z.J., Audretsch, D.B., Braunerhjelm, P., Carlsson, B. (2012) *Growth and entrepreneurship*, Small Business Economics, vol. 39(2), pp. 289-300.

Audretsch, D.B., Fritsch, M. (2002) *Growth regimes over time and space*, Regional Studies, vol. 36(2), pp. 113-124.

Audretsch, D.B., Keilbach, M. (2005) *Entrepreneurship capital and regional growth*, The Annals of Regional Science, vol. 39(3), pp. 457-469.

Baumol, W.J. (1990) *Entrepreneurship: productive, unproductive and destructive*, Journal of Political Economy, vol. 98(5), pp. 893-921.

Belitkski, M., Korosteleva, J. (2010) *Entrepreneurial activity across European Cities*, Frontiers of Entrepreneurship Research, vol. 30(4), article 12.

Doms, M., Lewis, E., Robb, A. (2010) *Local labor force education, new business characteristics, and firm performance*, Journal of Urban Economics, vol. 67(1), pp. 61-77.

Duranton, G., Puga, D. (2004) *Micro-Foundations of Urban Agglomeration Economies*, in: Henderson, J.V., Thiese, J.-F. (eds), *Handbook of Regional and Urban Economics, Vol IV: Economic Geography*, Amsterdam: Elsevier.

Ellison, G., Glaeser, E.L. (1999) *The geographic concentration of industry: does natural advantage explain agglomeration?* The American Economic Review, vol. 89(2), pp. 311-316.

García, A.B. (2014) *Analyzing the determinants of entrepreneurship in European cities*, Small Business Economics, vol. 42, pp. 77-98.

Glaeser, E.L. (2007a) *The economic approach to cities*, Working Paper no. 13696, National Bureau of Economic Research, http://www.nber.org/papers/w13696 [accessed 5.04.2014].

Glaeser, E.L. (2007b) *Entrepreneurship and the city*, Working Paper no. 13551, National Bureau of Economic Research, http://www.nber.org/papers/w13551 [accessed 6.04.2014].

Glaeser, E.L., Kerr, W.R. (2009) *Local industrial conditions and entrepreneurship: how much of the spatial distribution can we explain?* Journal of Economics and Management Strategy, vol. 18(3), pp. 623-663.

Lee, S.Y., Florida, R., Acs, Z. (2004) *Creativity and entrepreneurship: a regional analysis of new firm formation*, Regional Studies, vol. 38(8), pp. 879-891.

Lucas, R.E. (1988) *On the mechanics of economic development*, Journal of Monetary Economics, vol. 22(1), pp. 3-39.

Marshall, A. (1920) *Principles of Economics*, London: MacMillan and Co.

Porter, M. (1990) *The Competitive Advantage of Nations*, New York: The Free Press.

Porter M. (1996) Competitive Advantage, Agglomeration Economies, and Regional Policy, *International Regional Science Review*, Vol. 19, Nos. 1-2, 85-90.

Rahman, M., Fatima, N. (2011) *Entrepreneurship and urban growth: dimensions and empirical models*, Journal of Small Business and Enterprise Development, vol. 18(2), pp. 608-626.

Reynolds, P.D., Miller, B., Maki, W.R. (1995) *Explaining regional variation in business births and deaths: U.S. 1976-88*, Small Business Economics, vol. 7(5), pp. 389-407.

Romer, P.A. (1985) *Increasing returns and long run growth*, Rochester Center for Economic Research, Working Paper no. 27, October.

Rosenthal, S.S., Ross, A. (2010) *Violent crime, entrepreneurship, and cities*, Journal of Urban Economics, vol. 67(1), pp. 135-149.

Rosenthal, S.S., Strange W.C. (2009) *Small establishments/big effects: agglomeration, industrial organization, and entrepreneurship* in: Glaeser, E.L. (ed) *Agglomeration Economics*, National Bureau of Economic Research, http://www.nber.org/books/glae08-1 [accessed 8.04.2014].

Rosenthal, S.S., Strange, W.C. (2003) *Geography, industrial organization and agglomeration*, Review of Economics and Statistics, vol. 85(2), pp. 377-393.

Saxenian, A. (1994) *Regional Advantage: culture and Competition in Silicon Valley and Route 128*, Cambridge: Harvard University.

Shrestha, S.S., Goetz S.J., Rupasingha, A. (2007) *Proprietorship formation and U.S. job growth*, The Review of Regional Studies, vol. 37, pp. 146-168.

Sobel, R.S. (2008) *Testing Baumol: Institutional quality and the productivity of entrepreneurship*, Journal of Business Venturing, vol. 23(6), pp. 641-655.

Solow, R. (1956) *A contribution to theory of economic growth*, Quarterly Journal of Economics, vol. 70(1), pp. 65-94.

Sriram, V., Mersha T., Herron, L. (2007) *Drivers of urban entrepreneurship: an integrative model*, International Journal of Entrepreneurial Behaviour and Research, vol. 13(4), pp. 235-251.

Stephens, H.M., Partrige, M.D. (2011) *Do entrepreneurs enhance economic growth in lagging regions?* Growth and Change, vol. 42(4), pp. 431-465.

Storey, D.J. (1991) *The birth of new firm – Does unemployment matter? A review of the evidence*, Small Business Economics, vol. 3(3), pp. 167-178.

Chapter 3

Private Interest vs. Public Interest

Ewelina Szczech-Pietkiewicz

Introduction

The chapter refers to the issue of combining both private and public interests in urban environment. As both phenomena deserve a solid monographs themselves, due to the character of the presented publication, discussion will focus on one model of public-private cooperation, i.e. Public Private Partnership (PPP) which gives grounds to more in-depth analysis of conflict of interests between public and private partners. The model has a special significance in urban development area as quite often it is used in infrastructural developments, hence frequently located in cities. With PPP being well covered by economic literature (mostly in practical aspects or in a form of case-studies), focus of the following chapter will not be limited to advantages of this model of cooperation but will also be an attempt to present a critical analysis, hence give the Reader background for complex opinion's formulation.

The critical analysis of PPP is also presented to picture the differences and dilemmas of public and private interest, as their distance is one of the causes of the partnership ineffectiveness. Therefore, building on the subject of governance in urban areas (presented in previous chapter) mode of PPP will be used to picture the other side of cooperation, connected to operational issues and challenges.

3.1. Concept of Public Private Partnership (PPP)

PPP can be described as[139] "cooperation between public and private actors with a durable character in which actors develop mutual products and/or services and in which risk, costs, and benefits are shared". The name itself implies that PPP involves both public and private actors, who cooperate and share resources and risk in order to implement public task. Despite of the way PPP is institutionalized it follows a "principled pragmatism" principle[140], meaning they build additional capacity for private sector and solve public policy problems.

PPP take form of various governance structures: municipal companies (indirect delivery of public service), contractual PPP arrangements and mixed companies; to add to traditional in-house production[141].

Due to its nature (large scale projects which require private co-financing), PPP commonly used in urban development, mostly in urban infrastructure area. The projects therefore include: transport (roads, railways), education (schools), healthcare system (hospitals, research facilities), waste management (collection, recycling, disposal), amenities (water distribution, energy plants), etc. PPP are a form of policy liberalization, in the area of public services delivery. In fact, two of the most well-documented PPP's are the Allegheny Conference in Pittsburgh and the urban regime that governed Atlanta[142]. In both cases, the purpose of the arrangement was to build capacity to implement projects the political leadership would not have capacity to execute alone. The objectives of those PPP concerned living conditions in cities. Issues addresses via those PPP's were of importance to the communities, and even though were of interest to both sides of the arrangements, they shared public values.

The two mentioned PPP and other of that period, executed in urban areas, share a strong commitment to place. Goals of partnerships included social cohesion and natural environment protection, and catered the communities. The corporate partners participated in projects, as they planned to stay in the city and develop their business there. Thus the strategy to develop the city was part of the business strategy, addressing the issues of quality of life

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139 Klijn, E.-H., Teisman, G.R. (2002) *Institutional and Strategic Barriers to Public-Private Partnership: An Analysis of Dutch Cases*, paper for the British Academy of Management Conference 2001, 9-11 September 2002, London, Middlesex University, p. 2.

140 Peters, B.G., Pierre, J., Røiseland, A. (2014) *Financial gains and value loss? The impacts of local mixed companies*, Annals of Public and Cooperative Economies, vol. 85(1), pp. 87-102, p. 90.

141 Cruz, N.F., Marques, R.C., Marra, A., Pozzi, C. (2014) *Local mixed companies: the theory and practice in an international perspective*, Annals of Public and Cooperative Economics, vol. 85(1), pp. 1-9, p. 4.

142 Peters, B.G., Pierre, J., Røiseland, A. (2014), *op. cit.* pp. 94-95.

of management, workers, clients and their families. Currently, however, ever so often, business partners are not committed to locations and even use the threat of relocation as their negotiation tool. Therefore, the nature of PPP is changing.

3.2. Benefits for the stakeholders

Basic benefits of PPP as a form of cooperation derive from its definition – as stated above: risk and costs of an undertaking are shared by both (private and public) sides. Tangible benefits therefore include financial and material profits, creation of working space or increased transport capacity. As for the final product/service customers, the basic benefit lays in the product/service development as an effect of the cooperation and synergy, that would have not been possible without the PPP. Undertakings implemented in the form of PPP fill in the gap for new, innovative forms of financing and institutional mechanisms, as well as give hope for provision of modern technology, better project design and improved operations. Overall, reduced burden on public finance and better quality of delivered product/service is expected.

Other, more indirect benefits come from the fact that in ideal form, PPP is focused on cooperation and that the distinction of the two spheres is becoming dissolved (even though it bears risks that will be presented in the following section of the chapter). Therefore, a mutual added value is being created. This notion, however, will be referred to in a critical approach based on the analysis of operational issues of PPP.

More detailed, yet not complete, list of possible benefits of the PPP arrangements include:

- Partnerships allow for achieving particular task concerning public goods, which could not be implemented under public resources constraints (even more so after the financial crisis of 2008-2011);
- PPP's allow for introduction of private technology and innovation to public services (operational efficiency);
- Projects have a better chance to be completed to plan and budget;
- Risk of a project is transferred to corporate partner while public partner retains strategic control;
- Projects executed in PPP mode increase pool of basic infrastructure, otherwise unavailable due to budget constraints.

3.3. Barriers and risks of PPP implementation

Challenges in PPP effective implementation lay mostly in operational issues of this mode of cooperation, rather than its assumption. One of the hardest obstacles is, mentioned above, the difference in partners' objectives and variety of their interests perceptions. This goes hand in hand with various institutional backgrounds and conflicting strategies of partners. Other barriers are created by number of actors and complex decision-making process – complicated not only by the multitude of stakeholders but also number of networks and arenas engaged.

Complexity of the decision-making process comes to some extend from the inclusion of actors from different network (Klijn, Teisman 2002). Each actor is engaged in different network (or networks) and decisions made are constantly influenced by decisions taken at different arenas (e.g. local vs. central). In urban areas those networks and arenas may be represented by different administrational levels but also by existence of various, often conflicting, networks, like transport and housing networks for example. Decisions taken in PPP concerning built environment restoration influence (or may also conflict with) decisions to be made about transport/traffic systems. It these decisions moreover, both public and private partners have different interests (objectives) as private partners leans more towards commercialization of the partnership's results whereas public partner is also obliged to the city's inhabitants to secure city's liveability (i.e. guarantee effective public transport). Hence, significant challenge is created by different strategies and stakeholders of the partners.

In addition, the decision-making process in PPP is also influenced by partners own procedures and internal issues. Different institutional principles and accountability promoted fragmented decision-making rather than joint cooperation. As a consequence, the concept of cooperation, joint development and synergy is transformed in series of smaller projects of an individual nature. This process is also encouraged by the fragmented and diverse arenas of decision-making and differentiated strategies.

Other challenge to overcome is closely related to projects implemented at local level, including those carried out in urban areas. PPP implemented in cities most often concern large infrastructural developments which require large financial means, knowledge, and experience. Therefore, the number of actors prepared and ready to engage in such PPP is limited. Opportunities of replacing these partners is also limited, which is particularly important is case of a project's failure. Therefore, even after one project's failure, another large urban development project brings these same partners together which may lead to

inertia and blocking. On one hand, parties are in a way indispensable, on the other – they may be subject to 'pay back' attempts (when one party is trying to even out the cost of a previous project). This mutual dependency of partners may be a significant determinant of PPP ineffectiveness.

The private vs. public interest is mostly highlighted in the challenge of domain demarcation and fragmentation. As described above, PPP projects engaged various actors, various arenas, networks and decision-making regimes. As much as this caused organizational problems, it also continues to problems in domains. Rules which on one hand help determine land ownership or regulate interactions (information, access, etc.), on the other hand can conflict with one another in different arenas (Klijn, Teisman 2002). The lines of demarcation between different networks act as barriers of cooperation, as actors are protecting their areas and are reluctant to link to other domains.

The conflict of public and private interests, in a more general manner, is also referred to in Jacobs works, who believes that the two domains are impossible to dissolve due to different value patterns[143]. The two syndromes (as she calls them) are represented by the Guardian (public) and the Commerce (private) being two fundamental yet exclusive ethical systems. The guardian syndrome is characterized by values such as: discipline, loyalty, honour, respect for tradition, attachment to hierarchy. On the other hand, the commercial syndrome is characterized by: competition, innovation, striving for agreement, efficiency and effective allocation of resources. Jacobs explains the existence of these two distinct systems in a preface to her book:

"*This book explores the morals and values that underpin viable working life. Like the other animals, we find and pick up what we can use, and appropriate territories. But unlike the other animals, we also trade and produce for trade. Because we possess these two radically different ways of dealing with our needs, we also have two radically different systems of morals and values– both systems valid and necessary*." (Jacobs, 1992, p. xi).

Hence, the two systems (syndromes) are crucial, both have to exist, yet they may not be combined, dissolved or merged, as each belong to an exclusive domain.

More current analysis of conflicting public and private interests in urban infrastructural projects was provided by Klijn and Teisman[144]. They identify the roots of tensions between the domains and describe it in terms of PPP effects. The results of their analysis is presented in Table 3.1.

[143] (Jacobs 1992).

[144] Klijn, E.-H., Teisman, G.R. (2002), *op. cit.*

Table 3.1. Relation between the Core Business, Values and Strategies of Public and Private Actors

	Public actors	Private actors	Tension
Core business	Objectives: (sectoral) public objectives Continuity: political conditions	Objectives: realising profits Continuity: financial conditions	Different problem definiti-ons: political risks in expec-tations versus market risks in annual figures
Values	Loyalty Devoted to a self-defined public cause Controllability of process and approach (political/ social) Emphasis on risk avoidance and pre-venting expectations	Competitive Devoted to consumer preferences Controlled by shareholders on the basis of results Emphasis on market opportunities and risks and innovations	Government reluctant in process versus private party reluctant with knowledge Government reluctant in result versus private parties reluctant with their own effort
Strategies	Search for ways to guarantee substan-tive influence (primacy of the public) Minimising expectations and insecurity of implementation costs	Search for certainties to produce and/or obtain a contract Minimising political risks and organ-isational costs as a consequence of public 'viscosity'	Confrontation leads to a mu-tual 'locking-up' of agree-ments and thus to tried and tested types of cooperation (contracts)
Consequences for PPP	Emphasis on a limitation of risks and on agreements that lead to agreed procedures and public dominance	Emphasis on certainty of market share and profit, which leads to an expectant attitude and limited invest-ments until the moment when the contract is acquired	The creation of added value through cross-border inter-action is not reali

Source: Klijn, E.-H., Teisman, G.R. (2002*) Institutional and Strategic Barriers to Public-Private Partnership: An Analysis of Dutch Cases*, paper for the British Academy of Management Conference 2001, 9-11 September 2002, London, Middlesex University, p. 14.

To sum up the problem of private vs. public interest in urban areas in more practical ways, one can imagine the private partners as being interested in hosting large corporation, fairs, affairs or sports events, as well as commercialization of a project's effects and increase in real estate prices, claiming they will benefit the city with new infrastructure, telecommunication, airports, hotels or cultural venues. On the other hand, the public partner is securing the conditions of habitation, crime prevention, restoration of built environment, social inclusion. The diverse interests of the parties, even if merged in a particular projects implementation (e.g. building of a sport stadium), will most usually turn back in form of social tensions after the completion of the development.

Drawbacks of the PPP come also from the assumption that private management is inherently more efficient than public. This assumption, even though it has no grounds in academic research, constitutes one of the fundaments of PPP.

One more risk that PPP bears is concerning the fact that public values in this arrangement are more vulnerable than private. Even though there is an understanding that both sides of the contract are gaining in some areas, as well as they sacrifice something, there is a temptation to follow the private actor's values connected to market (e.g. efficiency), rather than public values associated with equity, democratic control, public good, etc. This over-representation of private values may be a consequence of the assumption that private rules are more beneficial for a particular task and the approach that PPP provides the grounds for the public sector to learn from the private (knowledge and know-how transfer).

Commitment to private values may also be a consequence of, mentioned above, organizational barriers. Any organization to run smoothly and perform sustainably, has to present consistent objectives, goals, expectations and values. In case of PPP, mostly those arranged in form of mixed companies, the discrepancy or even conflict of public and private goals lay at the core of limited success.

Final Remarks

Referring to the new models of urban governance, as Le Galès puts it:

"Studying the limits and discontinuities of government and governance is essential to the understanding, analysis, sometimes explanation of governance processes in large metropolis" (Le Galès, 2012.

Therefore, the analysis of one form of an attempt to merge private and public interests in urban areas gives us a short overview of the possible limitation of governance in city. Multi-level governance or system of polycentric governance, including not only different levels of administration, but also actors representing various arenas, may lead to problems as described in this chapter. They are however continuously challenges with new, innovative ways of managing these conflicts being elaborated. Following case-studies may give a closer look at the successful combination of public and private, giving hope that Jacob's theory of the Guardian and the Commerce may have to be altered over time.

Bibliography

Broadbent, J., Laughlin, R. (2003) *Public private partnerships: an introduction*, Accounting, Auditing & Accountability Journal, vol. 16(3), pp. 332-341.

Cruz, N.F., Marques, R.C. (2012) *Mixed companies and local governance: no man can serve two masters*, Public Administration, vol. 90(3), pp. 737-758.

Cruz, N.F., Marques, R.C., Marra, A., Pozzi, C. (2014) *Local mixed companies: the theory and practice in an international perspective*, Annals of Public and Cooperative Economics, vol. 85(1), pp. 1-9.

Handshake, *International Finance Corporation's quarterly journal on public-private partnerships*, Issue no. 4, January 2012, http://www.ifc.org/wps/wcm/connect/ae63aa004a17f-270b6ebffdd29332b51/Handshake4_Cities.pdf?MOD=AJPERES [accessed 30.04.2014].

Hodge, G.A., Carsten, G. (2007) *Public-Private Partnerships: An International Performance Review*, Public Administration Review, vol. 67(3), pp. 545-558.

Klijn, E.-H., Teisman, G.R. (2002) *Institutional and Strategic Barriers to Public-Private Partnership: An Analysis of Dutch Cases*, paper for the British Academy of Management Conference 2001, 9-11 September 2002, London, Middlesex University.

Le Galès, P. (2012)

Moszoro, M. (2014) *Efficient public-private capital structures*, Annals of Public and Cooperative Economics, vol. 85(1), pp. 103-126.

Peters, B.G., Pierre, J., Røiseland, A. (2014) *Financial gains and value loss? The impacts of local mixed companies*, Annals of Public and Cooperative Economies, vol. 85(1), pp. 87-102.

Shapely, P. (2013) *Governance in the Post-War City: Historical Reflections on Public-Private Partnerships in the UK*, International Journal of Urban and Regional Research, vol. 37(4), pp. 1288-1304.

The World Bank, *Government Objectives: Benefits and Risks of PPPs/Lessons Learned*, http://ppp.worldbank.org/public-private-partnership/overview/ppp-objectives [accessed: 16.05.2014].

Chapter 4

Cooperation with city authorities

Ewelina Szczech-Pietkiewicz

4.1. Governance in metropolitan areas

Most of the studies of governance, concentrating on its economic or social implications, conduct analysis with no regards to the territorial dimension of the phenomena. This approach may be supported by assumption of Harvey's[145] that in the context of globalization and technological progress, immobile social and political structures embedded in a particular territory lost their significance at the expense of mobile capital which becomes the decisive factor in the process of governance. Following this line of argumenting, studies focus on differences between economies and societies where market regulations play very extensive role (the US or the UK) and countries with 'institutionalized' economies with state interventions (France) or social institutions (Scandinavia) as a significant factors[146]. With increasing role of the processes connected to globalization, the state's capacity to govern however is declining, which provokes the search for new forms of regulation.

Le Galès in his works derives the decline of state regulation at urban level from the increasing rivalry between territories. This approach adds the territorial dimension to governance studies and brings it to local level of cities. It is also in line with one of the prevailing critiques of competitiveness as paradigm for urban growth, which may lead to unhealthy competition and individual city's growth on the expense of other (e.g. in case of rivalry for cultural or sports events or

[145] Harvey 1989.

[146] Le Galès, P. (1998) *Regulations and governance in European cities*, International Journal of Urban and Regional Research, vol. 22(3), pp. 482-506, p. 483.

competition for FDI or public procurement). The line of work by Le Galès[147] starts with analysis of economic development and mobilizations to attract public and private investment to institutional and political rivalries both in national and European perspective. The study of relations between territories, territories and market, and states and Europe lead to the conclusion that this competition may bring greater local mobilization in cities.

Other interesting observation on governance in European cities was drawn in Hooghe's[148] and Smith's[149] works over cohesion policy, the networks it creates and interdependencies between stakeholders. The studies conclude that a system of polycentric governance is developing in Europe, with states losing monopoly in this matter with the emergence of strong local (urban and regional) actors. While there is no longer one single strong centre of power (state) and sub-national centres are growing in importance, it is expected that those intermediate levels will keep growing in strength but also will become payees of the state or other sources. As Le Galès puts it[150]: "*we are thus witnessing a movement (...) in the redistribution of spending power away from EU member states, to the advantage of sub-national governments in particular*".

With cities and region gaining ground in governance, a process supported by the European Union's institution, new modes of urban development have to be elaborated; ones that do not rely solely on the competition and rivalry paradigm and emphasize cooperation and network creation in the intermediate levels of governance. One of such models is strongly supported by the EU multi-level governance.

4.2. Multi-level governance as a new model of urban cooperation with authorities

The chapter on PPP introduced the complexity of building partnerships in urban areas. Any form of cooperation in city is biased by its multi-leveled governance structure, number of overlapping and conflicting objectives, multitude of stakeholders and interconnectedness of networks. Having this complexity as a starting point, urban administrators, decision-makers and

147 Le Galès, P. (1993) *Villes en compétition, in: Biares*, S, Nevers, J.Y. (eds) *Gouvernment loval et politiques urbaines*, Grenoble: CERAT.

148 Hooghe, L. (ed.) (1996) *Cohesion policy and European integration: building multi-level governance*, Oxford: Clarendon Press.

149 Smith, A. (1995) *L'Europe politique au miroir du local*, Paris: L'Harmattan.

150 Le Galès, P. (1998), *op. cit.*, p. 487.

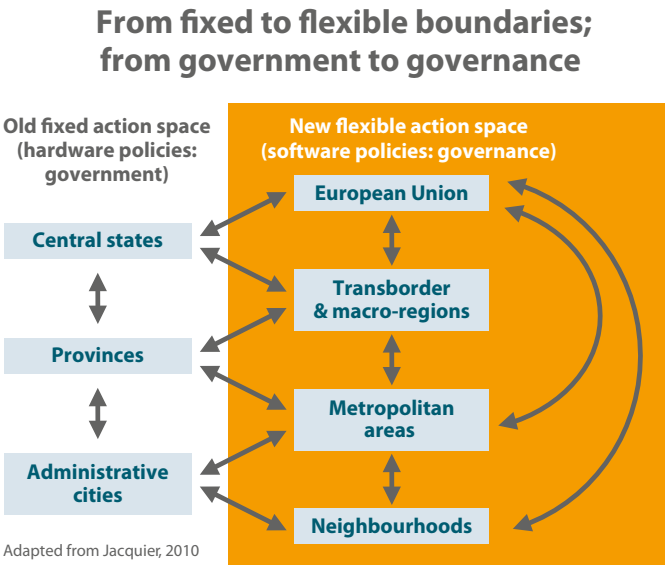
policy-planners of different levels are trying to arrange the optimal model of cooperation. Particularly interesting in this respect, is the multi-level governance (MLG) – a model proposed by the European Commission and the Committee of Regions as the most effective in urban environment. Citing the President of the Committee of Regions:

"Cities are powerful engines for growth and jobs, but cities are also confronted with difficult and complex societal challenges, such as demographic shifts, climate change and youth unemployment. To be successful, modern cities need to respond to these challenges in cooperation with other levels of administration, the private sector and civil society. This cooperation needs to be facilitated and supported by the EU. This is why the EU needs a genuine urban dimension in its policy making." [Ramon Luis Valcárcel Siso, President, Committee of Regions, *Issues paper for discussion in the forum „CITIES – Cities of Tomorrow: Investing for Europe"*, p. 2].

With the growing impact of globalization, and within the European Union also economic and territorial integration, economic, social, cultural, environmental and spatial challenges tend not to follow national administrational borders. Therefore, there is room to create a model of cooperation and regional management that will in larger extend correspond to these changes. Additional complication in case of urban areas is the difficulty in defining the notion of city itself, hence new overlapping dimension is the duality of analysis when it comes to administrational and functional areas. Even as, according to EU's subsidiarity rule, problems should be solved at the lowest possible level of administration, case of urban areas management proves that some challenges are better handled in a more centralized way, in order to coordinate actions of different entities. E.g. resource management (water, energy) is most suitable at regional level, whereas urban transport belongs to municipality's responsibility and social inclusion programs even at local or community level. Furthermore, interdisciplinary character of chosen problems forces a more horizontal view from central dimension, in order to avoid problem solving by shifting them to other cities or urban peripheries.

This complexity (subject-wise, actors-wise) is one of the causes that multi-level governance is now being promoted as the most effective approach to urban development management in the European Union. MLG allows for incorporation of all three (sometimes conflicting) dimensions of the Cohesion Policy (economic, social, territorial), while at the same time including specificity of urban areas. Moreover, MLG gives grounds for trans-border cooperation and flexible adjustment to different administrational systems. Figure 4.1. presents the proposed change in governance modes.

Figure 4.1. Change in approach to urban development management



Source: *Cities of tomorrow. Challenges, visions, ways forward*, European Commission, Regional Policy, p. 87.

Proposition of the European Commission (presented in the MLG scheme) seems to have two interesting characteristics:

- complementing the existing institutional structure with less formal, yet very suitable for urban management, dimensions, i.e. trans-border and inter-regional, as well as local communities, and
- mutual impact of various levels, even those not directly connected. Therefore, e.g. decisions taken at European level influence not only national public administration but also regional and city levels.

In the MLG model of governance, cities can also play additional role of social dialogue platforms for various stakeholders, which is necessary for reaching consensus in the traditional public management.

In the context of multi-level government, as preferred model for urban development management in the European Union, further discussion on cooperation of public and private sector in urban area will be held in two streams – cooperation at national level and cooperation on the community level. Thus, both national and European actions stimulating entrepreneurship in cities will be presented and analyzed in line with the polycentric governance and multi-level governance concepts discussed above.

4.3. Urban authorities' actions towards promotion of urban entrepreneurship – national level

With the shift of the economy towards service-producing, the role of small business has risen, putting them in centre of business support initiatives. The chapter's objective is to present a framework of analysis of support for business venues from the public sector. In order to do so, a well-established in Polish conditions structure of Special Economic Zones (SEZ), will be presented, as an example of structured co-operation and support. Some attention will also be put on Urban Economic Zones, as a solution specially designed for urban challenges. Other forms will be presented in form of case-study to this chapter, also presenting interesting solutions for business promotion in other countries. SEZ's however, having a body of literature and practice behind, can serve as a reference to other, local endeavours. Building on the concept that all businesses need capital, access to credit, legal advice, accounting, business planning and marketing, a multitude of local initiatives have been elaborated to help urban entrepreneurs. Municipal or regional authorities' support also takes into account the fact that urban entrepreneurs need something more, i.e. business coaching, networking, business education and access to human and social capital. Presented programs will all concentrate on those special needs of urban entrepreneurship.

4.3.1. Special Economic Zones

Special Economic Zones (SEZ's) are areas that governments allows special arrangements in order to spur entrepreneurship, attract investment, boost economic growth and employment. Such special measures concern relaxed regulations, limited corporate taxation and bureaucracy, usually on temporary bases. The idea behind SEZ's is that attracting investors will create new jobs (and solve social issues related to unemployment), as well as will allow the companies to invest the resources saved from not paying taxes (or non-wage costs of labor) into improving the area.

Other (than overall economic growth) goals of SEZ's creation may include transfer of knowledge and technologies between business and research sector. SEZ's are then organized in form of a technology park, in order to build a network of know-how spillover. Further objectives may include revitalization of industry infrastructure, when a SEZ is created in a former industry area.

The arrangement of SEZ's does not exhaust vast possibilities of entrepreneurship support by municipal or regional authorities. They may

include one-stop-shops, business information centres, access to publically collected data, more accessible capital, tax relief, non-wage labor costs relief, chambers of commerce, publication of material and information in languages that immigrants speak, etc. Overall, support may be divided into two group: easing the regulatory hurdle and establishing advisory entities. Most of the arrangements are place-based and therefore the most suitable method of analysis are case-studies. Some interesting solutions will be then presented in the case-study part of the chapter. SEZ was chosen to present in the essential body of the book based on a the well-establishment in economic literature of the concept.

4.3.2. Urban Economic Zones

Challenges faced by urban entrepreneurs may vary from the general business problems. Mostly, the importance of networking is crucial in urban settings, as is the degree of competition and fluctuation of human and social capital, to mention just a few. The specific problems of urban entrepreneurs related to network building rise from the fact that "they are not part of the 'old boy networks' of the world and may not be full participants in the new network of entrepreneurs"[151]. On the other hand, some of the companies face similar problems, be it a microenterprise seeking technical assistance or a micro-loan, established business seeking angel investment or a business seeking venture capital[152].

A survey study conducted by Tumml[153] on a group of 106 early-stage entrepreneurs brought following conclusions on challenges facing urban impact entrepreneurs:

- Urban impact entrepreneurs do not have sufficient access to capital: early stage companies focusing on urban innovation are less than half as likely as their traditional counterparts to receive seed stage funding. Even when normalizing for demographic factors such as number of entrepreneurial ventures and educational background, 33 percent of traditional entrepreneurs were able to secure venture capital or angel investment, compared with only 15 percent of the urban impact entrepreneurs.

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[151] Jones, S.R. (2007) *Supporting urban entrepreneurs: law, policy, and the role of lawyers in small business development*, Western New England Law Review, vol. 30(71), pp. 71-91.

[152] Jones, S.R. (2007), *op. cit.*, p. 78.

[153] Tumml is an urban ventures accelerator with a mission to empower entrepreneurs to solve urban problems. It provides entrepreneurs with the tools to help scale their impact and enhance quality of life in cities everywhere. www.tuml.org

- Urban impact entrepreneurs are not getting the right kind of mentorship and support: urban innovators are nearly twice as likely to seek out access to government and civic leaders (30% urban impact vs. 18% traditional). Although they are not looking to get hired by government, these entrepreneurs still need help navigating the local regulatory environment. For example, a bike share company needs help securing public space permits for their racks.

It is believed that communities can counter the trend of growing social and economic disparities in urban realities. With growing impact of transnational corporations and the shift it generates in job markets, economic activity, and lifestyles, communities are not only business locations but "sociospaces where inhabitants create a built environment to encompass political, social, and economic activities to meet their needs and desires"[154]. While corporations search the globalized economy for most advantageous locations and investment opportunities (quite often with little regard to social and spatial impact of their activities), communities may act as shock-absorbers reducing the waves of unemployment, increased crime, and deteriorating environment. Concept of urban economic zones (enterprise zones, empowerment zones) are building on this rationale.

The idea of enterprise zones introduced in the United States stressed no direct national supervision or funding but rather indirect assistance via tax reliefs and deregulation[155]. The urban zones were created around the concept that such approach would generate business friendly atmosphere that would attract economic activity to such locations, even if they were perceived as risky (for social reasons). Business activity would in turn create jobs, generate wealth in the community, and add to programs of solving social issues.

The American program of urban regeneration though urban enterprise zones proved only partly successful, mostly due to the negligence in the area of social infrastructure – no network of knowledge and experience-sharing was created, and no infrastructure for spreading the economic benefits of the program prepared.

Learning from the mistakes and experience of partial success in attracting economic activities to distressed communities, a new program of "empowerment zones" was introduced. With quite the same goals (of urban regeneration), it did not rely strictly on financial incentives. Actions towards human development

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[154] Gottdiener, M. (1994) *The new urban sociology*, New York: McGraw-Hill, p. 16.

[155] Riposa, G. (1996) *From enterprise zones to empowerment zones: The community context of urban economic development*, The American Behavioral Scientist, vol. 39(5), pp. 536-551, p. 541.

and mentoring were added. Empowerment zones were also build on the assumption that urban regeneration is only possible if the community involvement is secured. Therefore, the commitment was created not only by job-creation but also by providing knowledge of the community's development plans and political process, as well as actions toward quality of life increase. A sustainable community development program was introduced, in order to guarantee the success of regeneration long after the program is closed.

Important factor of empowerment zones success was their presence in national agenda. This was secured by the Community Empowerment Board, bringing together representatives of every major federal agency, which created a direct line of communication to national policy-making.

4.3.3. Critique of public support for urban entrepreneurship

Observation from limited success of urban enterprise zones proves that introducing solely economic development incentives is not the most effective approach in a long-term. Urban areas face complex challenges, therefore complex solutions must be put in place. Economic opportunities for sure create jobs and generate wealth increase, however distressed communities must also be subject to a mix of physical and human development such as education, human services, safety, social capital building. Community's commitment to the programs is not to be taken for granted, hence partnerships must be enhanced (relationships between local government and local organizations, associations, NGO's and even schools must be put in place).

Therefore, to avoid obstacles in SEZ's implementation, it seems that their strategy should be built on a "place-based people" policy (building the community and commitment) rather than adopt a "pure place strategy" (focus on geographical area rather than needs of residents)[156]. Any program elaborated with neglect to the sustainable social change has therefore a high risk of failure when it comes to economic revitalization goals.

[156] Forbes, J. (2006) *Using economic development programs as tools for urban revitalization: a comparison of Empowerment Zones and New Market Tax Credists*, University of Illinois Law Review, vol. 1, pp. 177-204, p. 177.

4.4. EU Cohesion Policy actions towards promotion of urban entrepreneurship – cooperation with community level authorities

Despite the impact cities have on the economy, there is no common policy towards urban areas on the EU community level. This however does not leave a vital part of economic, social, political and cultural life created by cities out of EU actions. Most of them are concentrated in the Cohesion Policy programmes, but there is also other policies that concern urban areas, such as transport, energy, innovation policies.

The new Financial Perspective of 2014-2020 gives grounds to believe that the cooperation of community with city authorities will be enhanced, as there is a series of instruments elaborated and directed precisely at urban challenges. Furthermore, important message was sent by securing of minimum of 5% of European Regional Development Fund's allocation to city actions. Answering to the discrepancy between the 5% allocation and 80% participation of GDP creation coming from urban areas, it has to be stressed that these allocations are directed at integrated strategies of sustainable urban development. This process is described by the European Commission as follows:

"*A minimum of 5 % of the ERDF resources allocated to each Member State shall be invested in integrated actions for sustainable urban development implemented through the Integrated Territorial Investment (ITI) tool (…), with the management and implementation delegated to cities (Article 7 paragraph 2 of the proposed ERDF regulation). The form and degree of the delegation of the management to the cities may vary according to the institutional arrangements of each Member State. The cities implementing integrated actions for sustainable urban development with delegated management should be included in a list accompanying the Partnership Contracts (Article 7, paragraph 2) and the operational programme (Article 87, paragraph 2 [c]). These lists are indicative and could be modified during the course of the programming period*."

This stipulation points not only to the fact that urban areas gained better funding from the EU fund but also to the issues concerning cooperation of various levels of authorities. Cities gain greater flexibility as far as addressing the challenges (being responsible for management and implementation of actions) and Member States are obliged to state their list in the Partnership Contract (agreement between Member State and the Commission, listing all the programmes, projects and actions to be undertaken with EU financing in a given country).

Having presented one particular funding opportunity, new in the Financial Perspective of 2014-2020, presentation of further actions addressed particularly at urban areas, is as follows:

- Urban Innovative Actions: actions will be granted a total of €220 million over the current Financial Perspective. Initiative's objective is to support actions in the areas of sustainable urban development, identify and test new solutions. These innovative urban actions should include studies and pilot projects to test new solutions to urban challenges that are likely to grow in the coming years. Several calls will be executed over the whole programming period, with first call in 2015. Applications will be accepted from areas of at least 50,000 inhabitants but associations and groupings of urban areas will also be included.
- Urban Development Network: this actions is specifically focused on enhancing cooperation between cities and other entities engaged in urban development. It covers practical implementation of urban dimension and exchange of experience. The network comprises of urban authorities which receive funding from the European Union. This Network will act as a forum for capacity building and exchange between the cities pioneering new techniques and developing integrated investments. The Network is not a funding instrument but a way for cities to share feedback on the use of these new approaches.
- Urban Development Platform: a tool specifically designed to enhance co-operation between cities and the European Commission. Based on a list of cities prepared by Member States in their Partnership Contract, the Commission will establish an Urban Development Platform comprising 300 cities throughout Europe, which will stimulate a more policy-oriented dialogue on urban development between the cities at European level and the Commission. It is not a funding instrument, but rather a mechanism for facilitating integrated and innovative actions for sustainable urban development.
- CommunityLed Local Development: a tool to promote the implementation of bottom-up, local development strategies prepared and implemented by local action groups involving representatives of all sectors of local interest. It is an extension of the LEADER approach (concerning rural areas) into urban areas promoting community ownership and multi-level governance. CLLD allows for needs-based capacity building activities, networking and stimulating innovation already at neighbourhood level in order to empower communities to fully exploit their potential.
- The Integrated Territorial Investment (ITI): a new delivery mode to bundle funding from several funds of one or more operational programmes

for multi-dimensional and cross-sectoral interventions. An ITI can be an ideal instrument to support integrated actions and complex challenges in urban areas as it offers the possibility to combine funding linked to different thematic objectives, including the combination of funding from those priority axes and operational programmes supported by the ERDF, ESF and Cohesion Fund.

- URBACT III: a programme jointly financed by the European Commission (ERDF) and the Member Stated, directing specifically at challenges in urban areas. After its absence in previous Financial Perspective, it finally was introduced back for the programming period of 2014-2020, with goals of promoting co-operation and experience-sharing between participating cities. It is therefore proposed that URBACT III will facilitate the sharing of knowledge and good practice between cities and other levels of government in order to promote integrated sustainable development and improve the effectiveness of regional and cohesion policy.

The above presented instruments of the Cohesion Policy, have one important thread in common: their goal is not only to enable financing of urban action but also to enhance networking and co-operation in many various levels. The Network is the best example of this approach but also other presented tools have this dimension very distinct. Urban Innovation Actions accept grouping of cities, pushing smaller cities to co-operate, while CLLD stress the bottom-up and multi-level governance approach. Cross-sectional, complex attitude towards urban challenges is promoted by ITI's, also promoting an integrated approach. It is also worth noticing that urban areas' authorities are treated as partners to the European Commission, in line with multi-level governance. They also gain responsibility as far as management of funds and actions. Cities will also be granted the opportunity to design and implement fully integrated strategies, which combine the resources of different priority axes and operational programmes.

Therefore, the praxis of co-operation with city authorities at the community level proves that the coming programming period will stress actions undertaken in urban areas and urban dimension of economic growth. This may bring additional opportunities for urban entrepreneurship, especially acting in the area of urban sustainability.

Final Remarks

Support for business initiatives may run in different dimensions. Presented above are chosen national and community level actions and structures which aim at spurring urban entrepreneurship. Even though their effectiveness is sometimes questioned, the fact that small enterprises are responsible for the majority of job creation in the global economy is not an issue of discussion. Therefore, case-studies presented below will mostly concentrate on support actions for SME's.

Quite important condition of entrepreneurship policies currently is however its shift towards innovation policy. Observation, on both national and community level, proves that there seems to be a "merger" of the two policies, with stronger focus on innovation support.

Bibliography

European Commission (2011) *Cities of Tomorrow. Challenges, visions, ways forward*, Directorat General for Regional Policy, http://ec.europa.eu/regional_policy/index_en.htm [accessed 19.11.2012].

Forbes, J. (2006) *Using economic development programs as tools for urban revitalization: a comparison of Empowerment Zones and New Market Tax Credists*, University of Illinois Law Review, vol. 1, pp. 177-204.

Gottdiener, M. (1994) *The new urban sociology*, New York: McGraw-Hill.

Le Galès, P. (1998) *Regulations and governance in European cities*, International Journal of Urban and Regional Research, vol. 22(3), pp. 482-506.

Le Galès, P. (1993) *Villes en compétition*, in: Biares, S, Nevers, J.Y. (eds) *Gouvernment loval et politiques urbaines*, Grenoble: CERAT.

Hooghe, L. (ed.) (1996) *Cohesion policy and European integration: building multi-level governance*, Oxford: Clarendon Press.

Jones, S.R. (2007) *Supporting urban entrepreneurs: law, policy, and the role of lawyers in small business development*, Western New England Law Review, vol. 30(71), pp. 71-91.

Riposa, G. (1996) *From enterprise zones to empowerment zones: The community context of urban economic development*, The American Behavioral Scientist, vol. 39(5), pp. 536-551.

Smith, A. (1995) *L'Europe politique au miroir du local*, Paris: L'Harmattan.

Issues paper for discussion in the forum „CITIES – Cities of Tomorrow: Investing for Europe", http://ec.europa.eu/regional_policy/conferences/urban2014/doc/issues_paper_final.pdf [accessed 23.04.2014].

Chapter 5

Start-ups

Marcin Wojtysiak-Kotlarski

Motto:

"The entrepreneur always searches for change, responds to it and exploits it as an opportunity"[157]

Peter Drucker

"The entrepreneur. He has no boat, but he has a dream in mind. He heads to the forest. Once there, he makes an axe and then proceeds to cut down trees to make a boat. This is tiring, but somehow the work propels him. Next, he has to figure out how to get the boat into the water, how to waterproof it, how to repair it, how to steer it – and he does so"[158]

Kevin Ready

Introduction

This chapter aims to serve as a starting point to the start-up arena. New firms are the core of the economy. Promoting entrepreneurship leads to economic development in an effective way. Urban areas quite often become clusters for entrepreneurs who are willing to undertake risks of a new business. Financial discipline and support of the state and private entities or individuals might be very helpful in shaping a friendly business environment for new businesses. What is more, entrepreneurship is seen in the future as an important means by which poverty can be limited.

[157] Quote found in: M. Lall, S. Sahai, *Entrepreneurship*, 2nd Edition, Excel Books, New Dehli 2008, p. 11.

[158] K. Ready, *Startup. An insider Guide to Launching and Running a Business*, Springer Science, New York 2011, p. 8.

5.1. Understanding a Start-up Company

Although many would rationally claim that entering the business world as an owner-manager of a firm is a complicated activity, a plenty lot of people make decisions to enter their own first small firms[159]. Such ventures, **firms which are built "from scratch", are called start-ups**. R. Balu states that on the verge of the new millennium, people find themselves in the "Age of the Start-up". "Everywhere, it seems, people have an idea that they want to turn into business, a new business model that they want to turn into a company – or an old company that needs a new idea. If you're not incubating a start-up, you're starting an incubator"[160].

For start-ups, entrepreneurs are key. They have an idea of how to pursue the given business concept. Historically, there has been **a long debate on entrepreneurs** and their role in the economy with a lot of prominent figures involved: Cantillon, Say, Knight, Weber, Schumpeter, Casson or Kirzner. Undoubtedly, the **entrepreneurial role is about bearing risk, operating under uncertainty**. Kirzner claims that being an entrepreneur means specialization "in making judgemental decisions about the coordination of scarce resources"[161].

We should distinguish between entrepreneurs and founders of a business. According to the definition of N. Wassermann, **founders of a business** are people who **start a new organisation** to pursue opportunities **without regard to the resources they currently control**[162]. "They make the early decisions that shape the start-up and its growth, an influence that begins even before the founding itself and that can extend through all stages of the start-up's development"[163].

In recent years, the term **urban entrepreneurship** has become hot on the agenda. Delmonize Smith defines urban entrepreneurship in 3 principal factors: (1) the process in which often marginalized, aspiring entrepreneurs start off with **no specialized resources** and then utilize the community's untapped

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159 See more in: M. Schaper, T. Volery, *Entrepreneurship and Small Business. A Pacific Rim Perspective*, John Wiley and Sons Australia Ltd., Milton 2004, p. 98.

160 R. Balu, *Starting your start-up*, "Fast company", Vol. 31, January/February 2000, p. 81. Reference found in: J.G. Longenecker, C.W. Moore, J.W. Petty, *Small business management. An Entrepreneurial Emphasis*, 12th Edition, South-Western – Thomson Learning, Mason 2003, p. 119.

161 M. Lall, S. Sahai, *Entrepreneurship*, 2nd Edition, Excel Books, New Dehli 2008, p. 7.

162 N. Wassermann, *The Founder's Dilemmas: Anticipating and Avoiding Pitfalls that Can Sink a Start-up*, Princeton University Press, New Jersey 2012, pp. 6-7. Wassermann is referring there to the opinion of a scholar, Howard Stevenson.

163 *Ibidem*, p. 7.

business potential to grow a successful business and further **develop the area's economy**, (2) the way to bring inner cities back to life through strategic and profitable ways to re-engage the marginalized residents in the economy, (3) the right entrepreneurial mindset[164].

For each enterprise (firm) the issue of its goals remains a central one. Would there be a symbiosis or clash between personal and corporate goals? Businessmen need to answer the following questions: What is your **purpose and what are your key objectives**? Why are you planning to be involved in these particular activities and not in other things?

Consequently, it is also suggested that business owners (or creators of start-up firms) have a kind of a clear idea about what they plan to achieve. Such **personal goals** which later on are **transformed into company goals** may include the following: (1) to achieve a given level of income each year, (2) to obtain a specified return on investment, (3) to become your own boss, (4) to provide job opportunities for other family members, (5) to grow the business in a defined timeframe[165].

Creating a business from the very beginning is associated with **entrepreneurship**. "Most entrepreneurs have an idea that they want to make happen. And, in many cases, they are making it happen (...)"[166]. Very often people who really possess a kind of entrepreneurial spirit and skills are successful in identifying and exploiting such new business opportunities.

However, it also happens quite frequently that great business ideas turn out to be failures. The reality is that **most entrepreneurs generally overestimate their chances for success**. It has both positive and negative aspects – on the one hand, entrepreneurs seem to be optimistic about the future, but on the other hand – they (or at least their investors) have to be down-to-earth as regards their prospects for the future.

There are a few reasons for pursuing a business from its very early stage – **motives for start-up development** – rather than developing some other alternatives (like franchising or buy-out). The reasons may include: (1) a commercial market for a recently invented or newly developed product or service, (2) an opportunity to take advantage of available resources, including an ideal location, recent technological advancements

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164 http://eship.dyson.cornell.edu/wp-eship/blog/2013/11/18/keynote-speaker-delmonize-smith-what-is-urban-entrepreneurship-the-answer-to-a-thriving-local-economy/

165 M. Schaper, T. Volery, *Entrepreneurship and Small Business. A Pacific Rim Perspective*, John Wiley and Sons Australia Ltd., Milton 2004, s. 99.

166 J.G. Longenecker, C.W. Moore, J.W. Petty, *Small Business Management. An Entrepreneurial Emphasis*, 12th Edition, South-Western / Thomson Learning, Mason 2003, p. 119.

in equipment, employees, suppliers or providers of funding, (3) a possibility to avoid undesirable procedures, policies or legal commitments of existing firms[167].

5.2. Selected Challenges for Financing New Business

Business people have to develop sound financial planning at the early stages of conceptualizing their start-up. **Financials of the project are a part of the business plan.** Financial forecasts will indicate expected cash flow, including profit forecasts. There are naturally risks related to this process. Entrepreneurs tend to be a bit overoptimistic: they believe they are going to make the sales as planned and be able to keep the costs down, but the real practice of business may alter their assumptions. Nevertheless, the financial part of the business plan is very important, because for the external parties interested in the functioning of the business (for instance: investors), it reflects how critical – i.e. cautious – the entrepreneur is about the future. The most important message from the business plan is the amount of money the start-up will need at every phase of its start-up life.

Each and every business needs financial resources to operate. There are **various financing options available for start-ups,** but basically, there may be two scenarios regarding the process; either the entrepreneur is able to finance the business with his or her own financial resources, or they have to obtain funding from external sources. Anyhow, the process will have to start with a proper business plan. In the table below, a selection of different options for start-ups to raise money is presented.

How to raise money for a start-up?			
Overdrafts?	**Long-term loans?**	**Selling shares?**	**Taking partners?**
• quick to be arranged and relatively cheap, • a defined limit, which can be changed by a decision of a bank.	• if an entrepreneur assumes he/she is unable to repay in the short run, a longer-term source of finance might be the answer.	• a limited company may be willing to sell some shares in return for an investment in the business.	• additional capital might be raised by taking a partner, • the share in profits is subject to negotiations.

Source: based on: S. Williams, *Business Start-up 2012*, Pearson Education Limited, Harlow 2011, pp. 319-322.

[167] See more in: J.G. Longenecker, C.W. Moore, J.W. Petty, *Small Business Management. An Entrepeneurial Emphasis*, 12th Edition, South-Western / Thomson Learning, Mason 2003, p. 120.

It is also very important to introduce **venture capital for start-ups**. The idea of venture capital is to search for interesting business projects which have a potential for development. Typically, such businesses would have very good management and would operate in a market that is either very large or growing very fast (the second option is preferred)[168]. In other words, venture capital has developed as an important intermediary in financial markets, providing capital to firms that might otherwise have difficulty attracting financing. Such companies are typically small and young (very often: start-ups), plagued by high levels of uncertainty and large differences between what entrepreneurs and investors know. Venture capital organisations finance these high-risk, potentially high-reward projects purchasing equity or equity-linked stakes while the firms are still privately held[169].

As we know, there is an immense increase in business mechanisms generated around the internet; **crowdfunding** is one of perfect examples of this trend. It allows, for instance, founders of for-profit, artistic, and cultural ventures to fund their efforts by **drawing on relatively small contributions from a relatively large number of individuals using the internet**, without standard financial intermediaries[170]. Crowdfunding draws inspiration from concepts like micro-finance and crowdsourcing, but represents its own unique category of fundraising, facilitated by a growing number of internet sites devoted to the topic[171].

The support of business angels is also an important option for the start-up guys. A **business angel is a wealthy individual who is willing to support entrepreneurs** in the early stages of developing a business. Angels usually, but not always, invest in industries they know and understand through their direct experience; they have a focus on fast-growing companies. "Angels also trade knowledge and experience for equity, or get more actively involved in a venture, even if they are not the lead investors but can take on a variety of roles in this capacity"[172]. There is a big variety of private investors; they may have various investment strategies and approaches (for instance, focus on sound cash flows of the business and willingness to have significant control of operations).

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168 Compare with: S. Williams, *Business Start-up 2012*, Pearson Education Limited, Harlow 2011, p. 329.

169 P. Gompers, J. Lerner, *TheVenture Capital Revolution*, „Journal of Economic Perspectives", Vol. 15, No. 2/2001, p. 145.

170 E. Mollick, *The dynamics of crowdfunding: An exploratory study*, "Journal of Business Venturing",vol. 29, 2014, p. 1.

171 *Ibidem*, p. 2.

172 G. Benjamin, J. Margulis, *Angel Capital. How to Raise Early-Stage Private Equity Financing*, John Wiley & Sons, Inc., New Jersey 2005, p. XXXi.

5.3. Entrepreneur and Entrepreneurship in Start-ups

E. Ries has no doubt about the proper definition of entrepreneurship. It has very close ties to management; in other words, you cannot and should not separate entrepreneurship from management. The relation between these two notions is described in a very interesting and straightforward passage in his "Lean start-up": "Entrepreneurship is a kind of management. No, you didn't read that wrong. We have wildly divergent associations with these two words, *entrepreneurship* and *management*. (...) it seems that one is cool, innovative, and exciting, and the other is dull, serious, and bland. It is time to look past these preconceptions"[173].

Undoubtedly, the distinguishing traits of **a successful start-up have to do with the kind of experience and knowledge its founders possess**. Researchers identify the following determinants of entrepreneurial behaviour: self-confidence, risk-taking propensity, flexibility, independence of mind, energy and diligence, hard-work ethic, creativity, the need for achievement, internal locus of control, tolerance of ambiguity, responsiveness to suggestions, dynamic leadership qualities, initiative, resourcefulness, good communication skills, perseverance, profit-orientation and perception with foresight[174]. Among the above, only three entrepreneurial traits – according to literature reviews – seem to be receiving the biggest attention and show a high level of validity.

Interestingly, the role of tolerance, openness and social or cultural diversity in urban development has gained much attention as **factors driving innovation and entrepreneurship.** As H. Qian claims, recent literature on urban and regional economics has found associations between these social factors and technology, entrepreneurship, innovation, housing and economic performance (in most studies, the terms tolerance, openness and diversity are generally either conflated or interchangeably used). It is argued that diversity's impacts on innovation and entrepreneurship are notably different from tolerance and openness and that diversity should be defined and measured differently from tolerance and openness[175]. "(...) we have found a positive association between tolerance (but not necessarily diversity) and human capital in a multivariate context, and **human capital further demonstrates a positive effect on both**

[173] E. Ries, *The Lean Start-up: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses*, Crown Business – Random House, New York 2011, p. 3.

[174] M. Schaper, T. Volery, *Entrepreneurship and Small Business. A Pacific Rim Perspective*, John Wiley and Sons Australia Ltd., Milton 2004, p. 35-36. Among the above, only three entrepreneurial traits, according to literature reviews, seem to be receiving biggest attention and show a high level of validity.

[175] H. Qian, *Diversity Versus Tolerance: The Social Drivers of Innovation and Entrepreneurship in US Cities*, "Urban Studies", 50(13), October 2013, p. 2718.

innovation and entrepreneurship. (…) diversity has no significant association with innovation, meaning that the role of diversity in innovation via diversifying knowledge and perspectives of thinking (i.e. the second mechanism in the case of innovation) is not supported in our empirical analysis"[176].

5.4. Clusters and support of the state or the city

Although in recent years cluster policy has become a central component of regional economic development strategy in many European economies, there is also an **ongoing debate regarding problems of cluster initiatives**. „However, concerns are now emerging over the content and quality of some of these initiatives.(…) irrespective of whether cluster policy is the appropriate choice as an economic development tool in any particular regional or economic circumstance, its selection always necessitates prior consideration of the institutional capacity needed to meet the governance challenges that it creates"[177].

The **big question** which is being answered is **how start-ups are really affected by clusters**. It is obvious that economic activity tends to be concentrated in specific geographic locations often referred to as clusters, which attract a majority of new start-ups; at the same time, start-ups in clusters experience high failure rates. The drawback of a cluster environment is – for instance – high competition between new business projects. In this context, A. Pe'er and T. Kiel claim that clusters can enhance the survival of start-ups through three distinct mechanisms: (1) start-ups may find **recruiting easier** because clusters attract a **higher number of skilled employees**; (2) start-ups may find a larger number of specialized suppliers to cooperate with, allowing them to focus their own activities; (3) a **larger number of customers may be attracted** to clusters, thereby enabling a start-up to form initial customer relationships more easily[178].

Recession time triggers discussion on start-ups. C. Román, E. Congregado, J.M. Millán suggest that as **several European governments develop new start-up programmes during recessions**, the appropriateness of these

[176] *Ibidem*, p. 2730.

[177] A. Burfitt, S. Macneill, *The Challenges of Pursuing Cluster Policy in a Congested State*, "International Journal of Urban and Regional Research", Vol. 32, No. 2, June 2008, p. 492.

[178] A. Pe'er, T. Kiel, *Are all startups affected similarly by clusters? Agglomeration, competition, firm heterogeneity, and survival*, "Journal of Business Venturing", 28 (2013), p. 354.

policies has recently become a hot issue[179]. They claim that the contribution of these incentives is dubious, if aimed to combat economic and jobs crises as a part of the entrepreneurship policy, and can be shaped by various country-specific factors, such as the economic situation and the stringency of labour laws[180].

The case of Korea reveals that **the role of the state in supporting entrepreneurs must be flexible.** N. Jung reminds in his article that "*the state's strategic coupling with the private sector and social groups"* were *"the main forces that facilitated the rise of ICT entrepreneurs and the high-technology industry cluster in Teheran Valley (TV) in Seoul, Korea, during the post-1997 financial-crisis downturn*"[181]. He reminds that "*during the industrial upgrading period from 1980 to the early 2000s,* ***the governance system for the ICT sector*** *shifted from centralized planning to selective deregulation through close partnership with ICT entrepreneurs, and then later to a more flexible mode of governance whereby the state re-centralized ICT policymaking functions while devising indirect ways of supporting emerging small and medium ICT enterprises"*[182].

Clusters are usually formed around particular cities which have performed differently as parts of this "knowledge-based economy" in recent years. This is a dynamic environment. W. van Winden, L. van den Berg, P. Pol, explain that recently European leaders have been concerned about the continent's relatively poor economic performance. It is believed that **Europe should "speed up its transition towards a 'knowledge-based economy'** in order to match the growth levels of the US and emerging Asian countries"[183]. On the basis of the research (case study findings), six types of cities are enumerated: (1) Stars: these are large cities that score high on virtually all basic factors and progress indicators: Amsterdam, Helsinki, and Munich. (2) (…) In transition: large cities with a lower score on quality of life and performance, struggling with a legacy of declining sectors: Dortmund, Rotterdam, Manchester. (3) Knowledge pearls: smaller cities with a high score on virtually all main factors, located very close to a big agglomeration, with a good performance record: Leuven. (4) Star niche players: specialised cities in terms of their knowledge base and economic base.

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179 C. Román, E. Congregado, J.M. Millán, *Start-up incentives: Entrepreneurship policy or active labour market programme?*, "Journal of Business Venturing", 28 (2013), p. 151.

180 *Ibidem*.

181 N. Jung, *Relational Governance and the Formation of a New Economic Space: The Case of Teheran Valley*, Seoul, Korea, "International Journal of Urban and Regional Research", Vo. 37, No. 4, July 2013, p. 1233.

182 *Ibidem*.

183 W. van Winden, L. van den Berg, P. Pol, *European Cities in the Knowledge Economy: Towards a Typology*, "Urban Studies", Vol. 44, No. 3, March 2007, p. 525.

They score well on progress indicators: Eindhoven. (5) Niche players in transition: cities with some degree of specialisation (either in the knowledge base or the economic base), that have to deal with a legacy of declining industries: Enschede, Aachen. (6) Intellectuals: cities with a strong university but without a knowledge-intensive business sector: Münster[184].

5.5. Heading for the future

We are of the opinion that the start-up arena is really very important from the economic development perspective. We tend to think that **entrepreneurial ecosystems could be regarded as "public goods"**. According to the definition, a public good is a product that one individual can consume without reducing its availability to another individual and from which no one is excluded. „Economists refer to public goods as "non-rivalrous" and "non-excludable""[185]. For instance, national defence, sewage systems, public parks and basic television and radio broadcasts could all be considered public goods.

It must be pointed out that research shows **a huge importance of an effective ecosystem, which would support entrepreneurs in the economy**. In Poland, for instance, entrepreneurs notice some activities of the state in this regard, but also enumerate plenty of problems which have to be solved in order to make the country more entrepreneur-friendly[186]. The most urgent issues include *inter alia*: high taxes, bothersome cooperation with public institutions, huge corporations favoured against small and micro companies, ineffective jurisdiction, or problems regarding patent regulations[187]. **If the state was more constructive in the development of an entrepreneurial ecosystem, the whole economy would benefit more**.

An interesting question that start-ups would have to answer these days is also whether they want to develop globally right from the beginning (**be global or local dilemma)**. Interestingly, global start-ups seem to be growing in terms of numbers; they quite often have aggressive strategies, plan to exploit technological advantages, acquire foreign technologies and gain customers

184 *Ibidem*, p. 540.

185 http://www.investopedia.com/terms/p/public-good.asp

186 M. Wojtysiak-Kotlarski, *Kształtowanie ekosystemu wspierającego przedsiębiorczość i rozwój gospodarczy a aspekty regulacyjne – wybrane zagadnienia teoretyczne, raport z badań statutowych KNoP*, SGH, Warszawa 2013.

187 M. Wojtysiak-Kotlarski, *Kształtowanie ekosystemu wspierającego przedsiębiorczość i rozwój gospodarczy a system regulacji. Opinie praktyków gospodarczych dotyczące wybranych zagadnień – raport z pilotażowego badania empirycznego, raport z badań statutowych KNoP*, SGH, Warszawa 2013.

overseas[188]. Although this tendency was suggested as early as 20 years ago, this is becoming even more important these days with companies like Rocket Internet changing the business landscape.

What is more, **from the macroeconomic perspective, entrepreneurship might be seen as a solution to poverty.** There is a common understanding of the fact that poverty is a critical issue for the world with huge numbers (billions) of people living at the base of the pyramid[189]. As market-based solutions such as entrepreneurship offer the best opportunity to create substantial and significantly positive change within poverty settings, G.D. Bruton , D.J. Ketchen Jr., R.D. Ireland notice a vibrant stream of research concerning how entrepreneurs in poverty settings can create positive change – for their families, communities, and the broader society in which they are situated [190].

Moreover, interestingly, there is an **emerging social enterprise concept** that might be regarded as the **"missing middle"**. Social enterprises have developed from and within the social economy sector, which lies between the market and the state and is often associated with concepts such as third sector or non-profit sector[191]."As a country and global community, we stand at a unique inflection point. It *appears* that the world's problems are outstripping our ability to address them, but what may be more accurate is simply that traditional institutions are no longer sufficient. Social enterprise is emerging as the "missing middle" sector between the traditional worlds of government, nonprofits and business"[192]. **Social enterprises are able to effectively address social concerns**: (1) more efficiently than government, which no longer has the mandate or resources to solve every social problem; (2) more sustainably and creatively than the nonprofit sector, which faces declining funding streams and increased demands for innovation, proof of what works and collaboration; and (3) more generously than business, which is mandated to place pre-eminence on shareholder returns, but is also realizing it can't succeed in a decaying world[193].

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188 See more in: B.M. Oviatt, P.P. McDougall, M. Looper, *Global Start-ups: Entrepreneurs on the worldwide stage*, "The Academy of Management Executive", Vol. 9, No. 2, May 1995.

189 Compare with: C.K. Prahalad, *Fortune at the bottom of the pyramid: Eradicating poverty through profits*, Prentice Hall, Upper Saddle River – New Jersey, 2004.

190 G.D. Bruton , D.J. Ketchen Jr., R.D. Ireland, *Entrepreneurship as a Solution to Poverty*, "Journal of Business Venturing", vol. 28 / 2013, p. 688.

191 The Social Enterprise Sector: a Conceptual Framework, Organisation for Economic Co-operation and Development – Local Economic and Employment Development Programme.

192 https://www.se-alliance.org/what-is-social-enterprise

193 *Ibidem*.

Of course, there are different opinions formulated as regards **future trends in the start-up industry** (industries / businesses of the future). According to Forbes, these days, in the second decade of the 21st century **the following industries in the start-up arena remain very popular: corporate wellness services, human resources and benefits administration, scientific and economic consulting, relaxation beverages, street vendors, ethnic supermarkets, wineries, social network game development, internet publishing & broadcasting, online survey software, e-commerce and online auctions**[194]. According to Inc.com, on the other hand, the following industries should be considered: **automated guided vehicles (AGVs), business apps, specialty foods, translation services, eco-friendly buildings, mobile health, on-line baby products, digital detectives**[195].

Bibliography[196]

Audretsch D.B., Fritsch M., *Growth Regimes over Time and Space*, "Regional Studies", Vol. 36.2, 2002.

Balu R., *Starting your startup*, "Fast company", Vol. 31, January/February 2000.

Benjamin G., Margulis J., Angel, *Capital. How to Raise Early-Stage Private Equity Financing*, John Wiley & Sons, Inc., New Jersey 2005.

Brockhaus R.H., Sr., *Risk Taking Propensity of Entrepreneurs*, "The Academy of Management Journal", Vol. 23, No. 3 (Sep., 1980), pp. 509-520.

Bruton G.D., Ketchen Jr. D.J., Ireland R.D., *Entrepreneurship as a Solution to Poverty*, "Journal of Business Venturing", vol. 28 / 2013.

Burfitt A., Macneill S., *The Challenges of Pursuing Cluster Policy in a Congested State*, "International Journal of Urban and Regional Research", Vol. 32, No. 2, June 2008.

Charnock G., Purcell T.F., Ribera-Fumaz R., *City of Rents: The limits to the Barcelona model of urban competitiveness*, "International Journal of Urban and Regional Research", January 2014.

Dunkelberg W., Moore C., Scott J., Stull W., *Do entrepreneurial goals matter? Resource allocation in new owner-managed firms*, "Journal of Business Venturing", Vol. 28, 2013.

Endline S., Think *Global, Act Local: Four Ways Your Company Can Be Socially Responsible And Prosperous*, www.forbes.com, 9/09/2013.

Friere-Gibb L.C., Nielsen K., *Entrepreneurship Within Urban and Rural Areas: Creative People and Social Networks*, "Regional Studies", Vol. 48, No. 1, 2014.

194 www.forbes.com/pictures/efgg45kmfg/11-industries-for-hot-start-ups. Research by the Kauffman Foundation is referred to in this article.

195 http://www.inc.com/best-industries

196 This list of documents includes all items which were used to develop both this chapter of the script and the e-learning material on startups for students of the "New models of urban entrepreneurship course".

Gedajlovic E., Honig B., Moore C.B., Payne G.T., Wright M., *Social Capital and Entrepreneurship: A Schema and Research Agenda*, "Entrepreneurship Theory and Practice", May 2013.

Gartner W.B., *A conceptual framework for describing the phenomenon of new venture creation*, "Academy of Management Review", vol. 10, no. 4, 1985.

Gladstone D., Gladstone L., *Venture Capital Handbook. An Entrepreneur's Guide to Raising Venture Capital. Revised and Updated Edition*, Pearson Education – Prentice Hall, New Jersey 2002.

Gompers P., Lerner J., *The Venture Capital Revolution*, „Journal of Economic Perspectives", Vol. 15, No. 2 / 2001.

Jung N., *Relational Governance and the Formation of a New Economic Space: The Case of Teheran Valley, Seoul, Korea*, "International Journal of Urban and Regional Research", Vo. 37, No. 4, July 2013.

Kolympiris Ch., Kalaitzandonakes N., *The geographic extent of venture capital externalities on innovation*, "Venture Capital", 2013, Vol. 15, No. 3.

Lall M., Sahai S., *Entrepreneurship*, 2nd Edition, Excel Books, New Dehli 2008.

Longenecker J.G., Moore C.W.,Petty J.W., *Small Business Management. An Entrepreneurial Emphasis*, 12th Edition, South-Western/Thomson Learning, Mason 2003.

Mollick E., *The dynamics of crowdfunding: An exploratory study*, "Journal of Business Venturing", vol. 29, 2014.

Morris M., *Starting a Successful Business. Start Up and Grow Your Own Company*, 6th Edition, Kogan Page Ltd., London 2008.

Outlaw S., *10 Top Crowdfunding Websites*, October 10, 2013, http://www.entrepreneur.com/article/228534

Oviatt B.M., McDougall P.P., Looper M., *Global Start-ups: Entrepreneurs on the worldwide stage*, "The Academy of Management Executive", Vol. 9, No. 2, May 1995.

Pe'er A., Kiel T., *Are all startups affected similarly by clusters? Agglomeration, competition, firm heterogeneity, and survival*, "Journal of Business Venturing", 28 (2013).

Qian H., *Diversity Versus Tolerance: The Social Drivers of Innovation and Entrepreneurship in US Cities*, "Urban Studies", 50 (13), October 2013.

Ready K., *Startup. An Insider's Guide to Launching and Running a Business, Springer Science*, New York 2011.

Report on the condition of small and medium-sized enterprise sector in Poland in 2011-2012, PARP, 2013.

Ries E., *The Lean Start-up: How Today's Entrepreneurs Use Continuous Innovation to Create Radically Successful Businesses*, Crown Business – Random House, New York 2011.

Román C., Congregado E., Millán J.M., *Start-up incentives: Entrepreneurship policy or active labour market programme?*, "Journal of Business Venturing", 28 (2013).

Schaper M., Volery T., *Entrepreneurship and Small Business. A Pacific Rim Perspective*, John Wiley and Sons Australia Ltd., Milton 2004.

Taylor M.Z., Wilson S., *Does culture still matter?: The effects of individualism on national innovation rates*, "Journal of Business Venturing", Vo. 27 / 2012.

The Aviation Valley: a cluster building initiative in peripheral region, consulted at: ec.europa.eu/regional_policy/projects/practices/download...

The Social Enterprise Sector: a Conceptual Framework, Organisation for Economic Co-operation and Development – Local Economic and Employment Development Programme.

van Winden W., van den Berg L., Pol P., *European Cities in the Knowledge Economy: Towards a Typology*, "Urban Studies", Vol. 44, No. 3, March 2007.
Wassermann N., *The Founder's Dilemmas: Anticipating and Avoiding Pitfalls that Can Sink a Start-up*, Princeton University Press, New Jersey 2012.
Williams S., *Business Start-up 2012*, Pearson Education Limited, Harlow 2011.
van Winden W., van den Berg L, Pol P., *European Cities in the Knowledge Economy: Towards a Typology*, "Urban Studies", Vol. 44, No. 3, March 2007.
Wojtysiak-Kotlarski M., *Kształtowanie ekosystemu wspierającego przedsiębiorczość i rozwój gospodarczy a aspekty regulacyjne – wybrane zagadnienia teoretyczne, raport z badań statutowych KNoP*, SGH, Warszawa 2013.
Wojtysiak-Kotlarski M., *Kształtowanie ekosystemu wspierającego przedsiębiorczość i rozwój gospodarczy a system regulacji. Opinie praktyków gospodarczych dotyczące wybranych zagadnień – raport z pilotażowego badania empirycznego, raport z badań statutowych KNoP*, SGH, Warszawa 2013.

Chapter 6

Socially responsible investments

Marcin Wojtysiak-Kotlarski

Motto:

"*Corporations capable of working in investors', stakeholders', and society's interests in a collaborative, creative and productive way would require a fundamental redesign of the concept of the corporation and the institution of the market. At this stage both prospects appear remote*"[197].

T. Clarke

Introduction

Discussions regarding corporate agenda clearly show that these days there are innumerable ways in which companies try to enact their **commitment to serve the society**[198]. Examples of such behaviour can be traced back to past centuries. For instance, in England during the first half of the XIX century (1831), George Cadbury, the son of the philanthropist and chocolate maker John Cadbury, created a model village for the benefit of his workers that conformed to his Quaker ideals. These were the days of pioneers of corporate responsibility, idealists who pursued a vision of using business also to "give back" to society[199]. These days, as stakeholders are not just passive recipients of "corporate responsibility signals" and expect more socially responsible activities, this forms a solid base for socially responsible behaviours which may be shaped in different forms, including **socially responsible investing.**

[197] T. Clarke, *International Corporate Governance. A Comparative Approach*, Routledge, Oxon 2009, p. 305.

[198] CB Bhattacharya, S. Sen, D. Korschun, *Leveraging Corporate Responsibility. The Stakeholder Route to Maximizing Business And Social Value*, Cambridge University Press, Cambridge 2012, p. 69.

[199] *Ibidem*, p. 27.

6.1. Key terms explained

M. Schaper and T. Volery are of the opinion that the following **typology of corporate behavior may be named: from social obligation, through social responsiveness to corporate responsibility and corporate philanthropy**[200]. Social obligation is the minimum level of activity regarding socially responsible operations – companies do only that what is required by law. A moderate level of activities can be called social responsiveness, which means that company engages in socially beneficial activities for pragmatic reasons. At the other end of the continuum is social responsibility, where companies would pursue long term goals that benefit the society even if there is no business gain in doing so. Another form of corporate behavior is corporate philanthropy, which refers generally to active corporate efforts to improve societies[201].

Undoubtedly, in the early years of the XXI century, stakeholders seem to be increasingly willing to be a part of a deeper and ongoing dialogue, i.e. activities far beyond former practices, reflected by the publication of detailed annual reports including information regarding corporate responsibility. The development of financial markets in the world is also putting some pressure, very often in a positive sense, on new approaches to consider **not just the financial return, but also the social impact** of business.

This is the context in which socially responsible investments (SRI) emerge as a concept. **Socially responsible investing is a rather wide term –** also known as – for instance – as sustainable or – earlier – ethical investing. Socially responsible investors are not purely driven by financial motives: for them the aspect of social good remains important. Russel Sparkes defines socially responsible investments in the context of investments the following way: "The key distinguishing feature of socially responsible investments lies in the construction of equity portfolios whose investment objectives combine social, environmental and financial goals"[202]. In the world of socially responsible investors, some practices are promoted (protection of the environment, for instance), whereas some businesses are avoided (tobacco industry or pornography).

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[200] The whole paragraph inspired by: M. Schaper, T. Volery, *Entrepreneurship and Small Business. A Pacific Rim Perspective*, John Wiley and Sons Australia Ltd., Milton 2004, p. 390-391.

[201] *Ibidem*.

[202] R. Sparkes, *Socially responsible investment. A global revolution*, John Wiley & Sons, Chichester 2002, p. 26-27. On the other hand, recently some authors would claim that socially responsible investors have the following areas of concern: environment, social and linked to governance (so called ESG issues). There is a broad literature on this topic.

Social good is a vague term. A social good probably does not seem to be very much a part of mainstream economics. Economics is about getting rich and not about satisfying various stakeholders. Below, an example of how this term may be explained is presented: „A good or a service that benefits the largest number of people in the largest possible way. Some classic examples of social goods are clean air, clean water and literacy; in addition, many economic proponents include access to services such as health care into their definition of the social or "common good""[203]. **Nevertheless, the idea of a social good is not just a theoretical concept. Recently, an initiative called +SocialGood** has been developed. It unites a global community of innovators around a shared vision: „The power of technology and new media to make the world a better place"[204].

As we have observed, currently a **new understanding of corporate goals** is becoming popular with scholars and various stakeholders. *„The capitalism-based definition of business states that companies exist only to provide the maximum possible return to shareholders. This has often not run parallel to serving the common good in ways such as promoting clean air and water, and financial independence for all citizens"*[205]*.* The nature of the firm changes **– corporations focus more on corporate sustainability efforts and social responsibility**, their business models may expand to include more social goods in their day-to-day strategies and operations[206].

We agree with the following statement: "**The larger the corporation becomes, the greater become its responsibilities to the entire community**. The corporations of the future must be those that are semi-public servants, serving the public, with ownership widespread among the public, and with labour so fairly treated that it will look upon its corporation as a friend"[207].

Community investing has become popular in recent years, especially in the USA. Many claim that **supporting communities is sustainable. "**Community investing means that **capital from investors is deployed and directed to communities that are overlooked and underserved by 'traditional' financial institutions**, providing access to credit, equity and basic banking products that otherwise may not be available; community development financial institutions (CDFIs) are the primary intermediaries who deploy capital in underserved communities"[208].

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203 http://www.investopedia.com/terms/s/social_good.asp

204 http://www.plussocialgood.org/News

205 http://www.investopedia.com/terms/s/social_good.asp

206 *Ibidem*.

207 D. Vogel, *The Market for Virtue. The Potential and Limits of Corporate Social Responsibility*, Then Brookings Institution, Washington 2005, p. 25.

208 http://0-search.credoreference.com.wam.city.ac.uk/content/entry/wileyazcsr/community_investing/0

6.2. Socially responsible investments and social entrepreneurship – a link?

It is worthwhile to highlight social entrepreneurship as a link between SRI and the start-up agenda. R. El Ebrashi reminds us that social entrepreneurship was introduced in the 1970s to address the issue of social problems in a sustainable way. "The term ''social entrepreneur'' was first mentioned in 1972 by Joseph Banks in his seminal work named The Sociology of Social Movements, where he used the term to describe the need to use managerial skills to address social problems as well as to address business challenges. Social entrepreneurship practices emerged in the 1980s with the establishment of Ashoka, which is the first organization to support social entrepreneurs in the world"[209]. **Social entrepreneurship is a collective action and not a one-man game**[210]. Social entrepreneurs are concerned about or dissatisfied with *status quo* responses to problems encountered personally, either in the family or in the community; they are motivated to change the *status quo*. "There is a need to emphasize the 'others' (i.e., the venture's clients or beneficiaries) to derive organizational power for producing social change"[211].

Responsible investing in the U.S. (well developed market in this regard) can be defined as the process of integrating personal values and societal concerns into investment decision-making. Within this context, social investors employ **three basic strategies aimed at both making money and making a difference**: (1) **screening** – the practice of including or excluding companies from portfolios based on social and/or environmental criteria; (2) **shareholder advocacy** (advocacy efforts are aimed at positively influencing corporate behavior; (3) **community investing** – provides capital to people in low-income, at-risk communities who have difficulty accessing it through conventional channels[212].

Although **social entrepreneurship** has emerged as an active area of practice and research within the last three decades, it **is regarded by some as a contested concept**, with no unifying conceptual framework; research on the concept is still considered to be in its infancy with minimal progress in theory

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209 R. El Ebrashi, *Social entrepreneurship theory and sustainable social impact*, „Social Responsibility Journal", Vol. 9, No. 2/2013, p. 188.

210 A.W. Montgomery, P.A. Dacin, M.T. Dacin, *Collective Social Entrepreneurship: Collaboratively Shaping Social Good*, "Journal of Bussiness Ethics", (2012) 111, p. 385.

211 A. Katre, P. Salipante, *Start-Up Social Ventures: Blending Fine-Grained Behaviors From Two Institutions for Entrepreneurial Success*, "Entrepreneurship Theory and Practice", September 2012, p. 967.

212 S. Schueth, *Socially Responsible Investing in the United States*, "Journal of Business Ethics", Vol. 43, No. 3, Social Screening of Investments, March 2003, p. 190.

development[213]. For instance, we should be able to distinguish between social enterprise and social entrepreneurship.

B. Luke and V. Chu remark that the terms 'social enterprise' and 'social entrepreneurship' are often used interchangeably. However, the two concepts are distinct, as not every enterprise (social or otherwise) is entrepreneurial. They are similar in **blurring the boundaries between for– and not-for-profit activities and combine commercial activities with social objectives**, but important distinctions exist. Social enterprises represent a form of social business, but – on the other hand – entrepreneurship is associated with opportunity identification, innovation and risk[214]. "As such, social entrepreneurship involves seizing the opportunity for market-changing innovation of a social purpose"[215].

6.3. Financial Aspects of SRI

The question of impact of socially responsible investments on returns has always been one of the key questions for an investor. There have been numerous studies conducted to establish if the **SRI is more profitable than alternatives.** Theory of finance would argue that given some level of risk, constraints may reduce returns, and undoubtedly social screening is an example[216]. Kurtz and DiBartolomeo recount the long history of the KLD 400, the oldest social-investment index. At present, this index excludes beyond specific thresholds companies involved in tobacco, alcohol, firearms, gambling, nuclear power and military efforts, while promoting businesses linked to: community relations, diversity, employee relations, human rights, product quality and safety, environment and corporate governance[217].

As already mentioned before, screening is one of SRI strategies. We should distinguish **two sorts of screening: positive and negative. Investors tend to buy in firms which are both profitable and making positive contributions to the society.** "Buy lists" include enterprises with outstanding employer-

[213] N. Choi, S. Majmudar, *Social entrepreneurship as an essentially contested concept: Opening a new avenue for systematic future research*, "Journal of Business Venturing", 29 (2014), p. 363.

[214] B. Luke, V. Chu, *Social enterprise versus social entrepreneurship: An examination of the 'why' and 'how' in pursuing social change*, "International Small Business Journal", 31(7), p. 764.

[215] *Ibidem*.

[216] See in: L. Kurtz, D. DiBartolomeo, *The Long-Term Performance of Social Investment Universe*, "Journal of Investing", Fall 2011, p. 95.

[217] See in: L. Kurtz, D. DiBartolomeo, *The Long-Term Performance of Social Investment Universe*, "Journal of Investing", Fall 2011, p. 96.

employee relations, excellent environmental practices, products that are safe and useful, and operations that respect human rights around the world (positive screening)[218].On the other hand, companies with harmful products or unacceptable business practices are avoided (negative screening)."Negative screening can involve avoiding investments in certain companies or sectors. In the case of government bonds it may also be possible to avoid investing in particular countries"[219].

Another SRI strategy is shareholder advocacy. We may think the only way for investors to express their opinion on a company's performance and practices is to buy or sell their shares. That's not the case, because **various proposals that can deeply influence the way a company operates may be presented to shareholders**. "This movement has its roots in the campaigns driven by socially responsible investors, like religious institutions who have long made their social, environmental and governance policies a cornerstone of their investment practices"[220]. **Shareholder advocacy is a close term to shareholder activism** (the way in which shareholders can assert their power as owners of the company to influence its behaviour). Shareholder activism may cover a broad spectrum of activities[221].

Finally, **community investing as an SRI strategy focuses on bridging the gap between the "cruel" world of corporations and finance on the one hand and the weaker members of the society on the other.** The idea is to channel public and private investment to low income, underserved communities in order to provide financing[222]. While community investing spans a wide range of initiatives, some of the areas it helps to finance are: (1) needed services (healthy communities, food access, education, child care, access to transit, access to jobs, affordable housing), (2) economic development (quality job creation, infrastructure development), (3) sustainable communities (mixed use/income, smart growth, environmentally focused community investment)[223].

Stock markets around the world have been implementing **indexes focused on social good;** some of them remain key and may be regarded as a kind of benchmark methodologies (the Dow Jones Sustainability Indexes and FTSE4Good, for instance)[224]. The Dow Jones Sustainability Indexes were first

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218 T. Clarke, *International Corporate Governance. A Comparative Approach*, Routledge, Oxon 2009, p. 291.

219 http://www.charitysri.org/for_charities/negative_screening.html

220 http://www.theguardian.com/sustainable-business/blog/shareholders-putting-sustainability-on-the-agenda

221 http://www.ecgi.org/activism/

222 http://www.ussif.org/communityinvesting

223 *Ibidem*.

224 Compare with: M. Blowfield, A. Murray, *Corporate Responsibility*, 2nd Edition, Oxford University Press, New York 2011, p. 238-240. Those authors are of the opinion that the third major index is KLD's Domini 400.

established in 1995 to monitor sustainability-driven investments worldwide and follow the idea of selecting the best-in-class companies; the FTSE4Good applies a selection of both positive and negative screens[225].

6.4. SRI in practice – selected examples

First, we wish to draw readers' attention to the example of research outcome by E. Oscrig-Olmedo, M.J. Mũnoz-Torres and M. A, Fernandez-Isquierdo regarding the perception of SRI in the Spanish society. It reveals that **the percentage of socially responsible individual investors in Spain is marginal**; most of these investors are women, in late middle age, highly educated, with middle and higher incomes. A certain lack of awareness was observed regarding socially responsible financial products. "On the other hand, ethical banks are the most widely known SRI market instruments"[226].

Another example comes from Scandinavia, which might help understand the drivers of SRI.

B. Scholtens and R. Sievänen find that despite the striking similarity in economic, social, and CSR performance, the four Nordic countries significantly differ in size and composition of their SRI. For instance, in Denmark revelations of unethical practices form the basis for interest in SRI. SRI does not have a long tradition in Finland, but there religious institutions and institutional investors are among the key actors. Norwegian SRI is strongly driven by the practices of the Norwegian Petroleum Fund, which is a role model for responsible investors worldwide. In Sweden, the church is among the key drivers of SRI as well, followed by several institutional investors and national pension funds, which are regulated in order to ensure that they consider ethical issues[227].

An interesting example of social entrepreneurship practice regards India, where women's **cooperatives offer self-employment opportunities** that can contribute to women's social inclusion and empowerment[228]. Interestingly, social entrepreneurship may be researched and quite often functions in practice

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225 Compare with: *Ibidem*, p. 239.

226 E. Oscrig-Olmedo, M.J. Mũnoz-Torres, M.A. Fernandez-Isquierdo, *Sustainable Development and the Financial System: Society's Perceptions about Socially Responsible Investing*, "Business Strategy and the Environment", 22 (2013), pp. 425-246.

227 The following was used to develop this paragraph: B. Scholtens, R. Sievänen, *Drivers of Socially Responsible Investing: A Case Study of Four Nordic Countries*, "Journal of Business Ethics", (2013), 115, p. 613.

228 P.B. Datta, R. Gailey, *Empowering Women Through Social Entrepreneurship: Case Study of Women's Cooperative in India*, "Entrepreneurship Theory and Practice", May 2012, p. 569.

along four main principles: (1) collective ownership (" (...) we are like a large family of sisters. The sister members come from every religion, caste, and background. We support each other through difficult times"), (2) co-operation ("All decisions are based on consensus. We make decisions that benefit all"), (3) self-reliance ("As I had little education, finding employment in Mumbai was impossible. By joining Lijjat, I was able to contribute to my family income and discharge familial responsibilities."), (4) profit sharing ("The profits from the first six months of operations were equally distributed in the form of one gram of gold")[229].

Islamic finance is no longer seen as a phenomenon or hype; many ask themselves the question: **what lessons could be learnt from Islamic finance?**[230] We can say that this is a very straightforward example of how the system of values (here – very closely linked to religion), can be implemented in real business practice. We are no longer talking of sporadic growth. **Islamic financial institutions hold assets which already exceed one trillion US dollars**[231]. As the world has been transforming into a global marketplace over the recent years, the challenge for both investors and start-up professionals is to understand some major terms related to Islamic finance, which include, for instance: **Shari'ah** (Islamic Law – rules stemming from divine revelations as set forth in the holy books of the Muslims), or **Sukuk** (Shari'ah compliant financial instruments, or **Fatwa** (religious opinion of an Islamic scholar concerning Islamic law)[232]. As the world these days is struggling against economic crises, referring economic activity more closely to the solid value system grounded in religions of various regions of the world might probably be considered by the global community as a kind of important assumption for the new global governance.

What might the lesson for Poland be? We should plan the SRI framework with courage; this may be one of the pillars of the economic policy in our country.

6.5. Agenda for the future

SRI was important in the past, is important on the current agenda and undoubtedly will gain importance in the future. As J. Goldberg, S.R. Goldberg and P. Ratliff-Miller remind, during the Great Depression of the 1930s, U.S.

[229] *Ibidem*.

[230] The paragraph is based on: D.S. Alqahtani, *Islamic Investment and Finance Post-2009-2010 and Beyond: A Sustainable Alternative*, "Journal of Investing", Fall 2011, 20, 3, pp. 85-88.

[231] *Ibidem*, s. 85.

[232] *Ibidem*, s. 87-88.

President Franklin D. Roosevelt conveyed a lesson on socially responsible investing (SRI): "We have always known that heedless self-interest was bad morals; we know now that it is [also] bad economics"[233]". As such, **socially responsible investing would remain a strategy** wherein the investor is concerned with maximizing both financial return and social good. Of course, such investments may be made directly in an entity or through funds that are organized around socially responsible criteria[234].

As the **concept of a corporation is being redefined**, socially responsible investing should be an integral part of a company's strategy to integrate social responsibility into business planning – there is a growing belief that this is the best approach for maximizing benefits to all corporate stakeholders, including shareholders[235].

Links between religion and business are very rarely mentioned in the literature, but it seems that, in the SRI context, we are returning to the basics, which means that **religious impact** should be in place. People have sought changes in the approach towards corporate governance for years. In the literature, there may be numerous examples found which prove that the first initiatives in the area of ESG have arisen as a result of people's expression of their beliefs. T. Smith refers to a historic moment at the General Motors shareholder meeting in 1971. It regarded the situation in South Africa. Then the so called Episcopal Church resolution launched a new era in shareholder advocacy – it is an example of how investors led by religious community and coordinated by Interfaith Centre on Corporate Responsibility (ICCR) began engaging companies on important issues like the environment, employee diversity, human rights or strip mining[236].

For societies, **religion and ethical aspects of life remain crucial, which also leads to more widespread philanthropy.** The quotation below is very straightforward in explaining this approach: "My philosophy is that the successful people have got an obligation and successful companies have got an obligation to society. It's important because that's what civilisation is about … If we stop doing that then it's just dog eat dog – it's not society, it's a very broken, fragmented thing. We are already there in many ways at the moment with what's

[233] J. Goldberg, S.R. Goldberg, P. Ratliff-Miller, *Investing in Socially Responsible Companies*, "The Journal of Corporate Accounting & Finance", November / December 2008, p. 53.

[234] *Ibidem*, p. 54. In the article, the reference to www.wikipedia.org is noted.

[235] *Ibidem*, p. 57.

[236] See in: T. Smith, *Engaging Companies on Sustainability Issues / Companies Promoting CSR Leadership as Good Business*, "The Journal of Investing", Fall 2011, p. 103.

been going on, which I think is very sad. I want to see if I can help push the peanut up the hill and go on helping to try and sort these things out"[237].

As a significant group of investors want to support socially responsible investments, there is a growing demand for frameworks facilitating both convenient investment in and divestments from social undertakings. The above expectation might be regarded as a kind of **pressure to develop social stock exchanges.** Is it a myth or a potential next step? Such ideas have not become part of mainstream by now, but the growing potential of such initiatives seems to be huge. Naturally, we do not have to invest in publicly listed companies to be involved in the world of socially responsible investments by venture philanthropy, social and environmental venture capital, community investments or microcredit initiatives[238].

We live in times where a lot of observers notice that a redesign of the concept of a corporation is urgently needed. Among others, the **Corporation 2020 Initiative** emerged in this context. "Natural limits to the planet's ecological resources are, ultimately, inviolable. In order to ensure that we do not cross these thresholds, lower rates of economic growth, physical throughput, and investment are inevitable. Corporations not only need to respect natural limits; they must step out of the political arena and, as implausible as it may sound,

abrogate the pervasive influence in the political sphere that has evolved in the last three decades"[239].

The following are the **New Principles** for Corporate Design according to the Corporation 2020 Initiative: "**1.** The purpose of the corporation is to harness **private interests to serve the public interest**; **2.** Corporations shall accrue **fair returns for shareholders, but not at the expense of the legitimate interests of other stakeholders**; **3.** Corporations shall operate sustainably, **meeting the needs of the present generation without compromising the ability of future generations to meet their needs**; **4.** Corporations shall distribute their wealth equitably among those who contribute to its creation; **5.** Corporations shall be governed in a manner that is participatory, transparent, ethical, and accountable; **6.** Corporations shall not infringe on the right of natural persons to govern themselves, nor infringe on other universal human rights"[240].

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237 Quotation found in: M. Maclean, Ch. Harvey, J. Gordon, *Social innovation, social entrepreneurship and the practice of contemporary entrepreneurial philanthropy*, "International Small Business Journal",(2013) 31, p.758.

238 This point based on a very interesting and valuable compilation in : M. Blowfield, A. Murray, *Corporate Responsibility,* 2nd Edition, Oxford University Press, New York 2011, p. 243-248.

239 Summary of Proceedings. Corporations in a Great Transition: Vision, Models, and Pathways for Transformation, October 31-November 1, 2013, Boston/Cambridge, Massachussets, USA; available at: http://www.corporation2020.org/documents/Summary_of_Proceedings_Final.pdf

240 http://www.corporation2020.org/

Bibliography[241]

Alqahtani D.S., *Islamic Investment and Finance Post-2009-2010 and Beyond: A Sustainable Alternative*, "Journal of Investing", Fall 2011, 20, 3.

Aluchna M., *Corporate social responsibility of the top ten: examples taken from the Warsaw Stock Exchange*, "Social Responsibility Journal", Vol. 6, No. 4, 2010.

Berry T.C., Junkus J.C., *Socially Responsible Investing: An Investor Perspective*, "Journal of Business Ethics", (2013) 112.

Bhattacharya CB, Sen S., Korschun D., *Leveraging Corporate Responsibility. The Stakeholder Route to Maximizing Business And Social Value*, Cambridge University Press, Cambridge 2012.

BinMahfouz S., Kabir Hassan M., *Sustainable and socially responsible investing. Does Islamic investing make a difference?*, "Humanomics", Vol. 29, No. 3, 2013.

Blowfield M., Murray A., *Corporate Responsibility*, 2nd Edition, Oxford University Press, New York 2011.

Choi N., Majmudar S., *Social entrepreneurship as an essentially contested concept: Opening a new avenue for systematic future research*, "Journal of Business Venturing", 29 (2014).

Clarke T., International Corporate Governance. A Comparative Approach, Routledge, Oxon 2009.

Datta P.B., Gailey R., *Empowering Women Through Social Entrepreneurship: Case Study of Women's Cooperative in India*, "Entrepreneurship Theory and Practice", May 2012.

El Ebrashi R., *Social entrepreneurship theory and sustainable social impact*, „Social Responsibility Journal", Vol. 9, No. 2/2013.

Goldberg J., Goldberg S.R., Ratliff-Miller P., *Investing in Socially Responsible Companies*, "The Journal of Corporate Accounting & Finance", November/December 2008.

Grogan P., *The Future of Community Development, Community Investments*, Winter 2012/13 – Volume 24, Number 3.

Katre A., Salipante P., *Start-Up Social Ventures: Blending Fine-Grained Behaviors From Two Institutions for Entrepreneurial Success*, "Entrepreneurship Theory and Practice", September 2012.

Kurtz L., DiBartolomeo D., *The Long-Term Performance of Social Investment Universe*, "Journal of Investing", Fall 2011.

Luke B., Chu V., *Social enterprise versus social entrepreneurship: An examination of the 'why' and 'how' in pursuing social change*, "International Small Business Journal", 31(7).

Maclean M., Harvey Ch., Gordon J., *Social innovation, social entrepreneurship and the practice of contemporary entrepreneurial philanthropy*, "International Small Business Journal",(2013) 31.

Montgomery A.W., Dacin P.A., Dacin M.T., *Collective Social Entrepreneurship: Collaboratively Shaping Social Good*, "Journal of Business Ethics", (2012) 111.

Mueller S., Volery Th., von Siemens B., *What Do Entrepreneurs Actually Do? An Observational Study of Entrepreneurs' Everyday Behavior in the Start-Up and Growth Stages*, "Entrepreneurship Theory and Practice", September 2012.

[241] This list of documents includes all items which were used to develop both this chapter of the script and the e-learning material on socially responsible investments for students of the "New models of urban entrepreneurship course".

Nelson J., *The Public Role of the Private Enterprise; Risks, Opportunities and New Models of Engagement*, Corporate Social Responsibility Initiative Working Paper No. 1, Cambridge, MA, John F. Kennedy School of Government, Harvard University, 2004.

Nyerere J., *Freedom & development/Uuhuru Na Maendeleo*, Dar es Salaam: Oxford University Press, Oxford 1974.

Oscrig-Olmedo E., Mũnoz-Torres M.J., Fernandez-Isquierdo M.A., *Sustainable Development and the Financial System: Society's Perceptions about Socially Responsible Investing*, "Business Strategy and the Environment", 22 (2013).

Raftery J., *Risk analysis in project management*, E. & F.N. Spon, An Imprint of Routledge, London and New York, 1996.

Sauer D.A., *The impact of social-responsibility screens on investment performance: evidence from the Domini 400 social index and Domini equity fund*, "Review of Financial Economics", Vol. 6 (1997).

Scholtens B., Sievänen R., *Drivers of Socially Responsible Investing: A Case Study of Four Nordic Countries*, "Journal of Business Ethics", (2013), 115.

Schueth S., *Socially Responsible Investing in the United States*, "Journal of Business Ethics", Vol. 43, No. 3, Social Screening of Investments, March 2003.

Shaver K.G., Scott L.R., *Person, process, choice. The psychology of new venture creation*, "Entrepreneurship Theory and Practice", 1991, 16(2).

Smith T., *Engaging Companies on Sustainability Issues / Companies Promoting CSR Leadership as Good Business*, "The Journal of Investing", Fall 2011.

R. Sparkes, *Socially responsible investment. A global revolution*, John Wiley & Sons, Chichester 2002.

Summary of Proceedings. Corporations in a Great Transition: Vision, Models, and Pathways for Transformation, Boston/Cambridge, Massachusetts, USA, October 31-November 1, 2013.

Vogel D., *The Market for Virtue. The Potential and Limits of Corporate Social Responsibility*, Then Brookings Institution, Washington 2005.

Wojtysiak-Kotlarski M., *Introduction to Managing Risk and Value of a Project*, Szkoła Główna Handlowa w Warszawie, Warszawa 2014 (forthcoming).

Chapter 7

Sustainable Urban Development and Emerging Professions

Katarzyna Negacz

Introduction

This chapter explains the concept of sustainable urban development and green professions emerging in cities. It introduces the concept of sustainable development in urban areas and explains the sustainable approach to most essential issues in cities, which include: energy and water supply, transportation systems, waste management and recycling, as well as construction and design of buildings. Some of the questions which will be answered in this chapter are as follows:

- What is sustainable urban development?
- How is the idea translated into practice in various countries and cities?
- How do you measure its sustainability?
- What are the cluster topics for sustainable development in cities?
- How to pursue a green profession?
- Which universities offer programs related to sustainable development?

The topic was chosen to better understand how the idea of sustainable development may be applied in cities which usually are considered unsustainable and to show how a profession linked to green economy may be found.

7.1. The concept of sustainable urban development

The concept of sustainable development was shaped in the second part of the 20th century. The term was coined in the Brundtland Report in 1987 where it is defined as "the development that meets the needs of the present without compromising the ability of future generations to meet their own needs"[242]. Before, it was used mostly in the context of forestry and fishing and meant using and sustaining these resources without reducing their amount in the environment. The next milestone was a voluntary action plan called Agenda 21 agreed during the UN Conference on Environment and Development in Rio de Janeiro in 1992 which enabled participants to translate the concept into specific steps.

The sustainable development idea in an urban environment is a holistic system[243]. It is directly linked to the development of local economy and urban areas. In this framework, local administration plays a crucial role by designing and implementing local development policy, managing tasks within institutional structure and creating opportunities for inhabitants to support its actions.

There are numerous tools enabling urban development management. Some worth highlighting include[244]:

- organization of urban development (creating solutions, structure, stakeholders network);
- local planning (with strategic, tactical, operational and integrated elements);
- partnerships for development (identifying needs, stakeholders, structure and agreements);
- spatial information systems (defining the scope, data bases, models and dispersion possibilities);
- sources of financing the development (revenues and expenditures, private sector involvement, loans from banks).

Implementation of the sustainable development concept is a long term process. It integrates changes in the urban ecosystem by balancing the spatial plan of the city, adjusting public transport and infrastructure. New solutions are applied in focal points such as[245]:

- science and technological parks;
- small and medium enterprise clusters;

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242 *Our Common Future*, UN WCED, 1987.

243 W. Pęski, *Zarządzanie zrównoważonym rozwojem miast*, Arkady, Warszawa, 1999, pp.31-32.

244 See: *Ibidem*, pp. 65-133.

245 See: *Ibidem*, pp. 159-271.

- urban real estate sector;
- unused urban areas;
- housing neighbourhoods;
- technical infrastructure (public supply of water, energy, heating, etc.).

The transformation of a city into a sustainable urban organism takes various forms and approaches but all of them can be divided into redevelopment of existing places or setting up new urban neighbourhoods[246]. Despite the fact that there are so many different sustainability principles for neighbourhoods, they are all connected to the same idea implemented in different ways[247]. As Gibson says, there are 8 main criteria for achieving a higher level of sustainability: system integrity, livelihood sufficiency, intra- and intergenerational equity, sustainable use of resources, democratic government, precaution and adaption, and long-term integration[248].

The research done by C. Luederitz showed different sustainability criteria[249].

He presents also nine integrated principles for sustainable urban neighborhood development[250]:

- *Develop harmonized coupled human-environment systems*: each city is embedded in the historical, cultural and environmental context. One should pay attention to preserve the ecosystem it is settled in, protect flora and fauna species in the surrounding, take care of cultural and social cohesion as well as foster local production possibilities.
- *Sustainable urban metabolism*: it covers energy, water, resource and waste management. It is important to ensure the energy, material and nutrient flow in the city, seek for efficient energy use, diminish its consumption and decentralized energy solutions, assure water quality and sewage system management.
- *Environment-caring building design using local and sustainable materials*: use local product, minimize extensive damage; save water and heat, use

[246] C. Luederitz et al., *A systematic review of guiding principles for sustainable urban neighborhood development*, "Landscape and Urban Planning", 118, 2013, p. 41.

[247] Most often researchers concentrate on ensuring sufficiency and effective choices for all, development of mutual awareness and collective responsibility as well as preserving opportunities and capabilities for the future generations. Then the equal number of times appeared constructing relations between people and ecosystem and avoiding waste production. Least chosen criterion was reducing extractive damage, followed by the ensuring the minimum level of income.

[248] R.B. Gibson, *Sustainability assessment: Basic components of a practical approach*, "Impact Assessment and Project Appraisal", 24(3), 2006, p. 171.

[249] C. Luederitz et al., *op. cit.*, p. 45.

[250] C. Luederitz et al., *op. cit.*, p. 46.

zero emission design, avoid toxic materials, use brown and greenfield investments, adopt neighborhoods to people's lifestyle and needs.

- *Cater for a livable and vibrant neighborhood*: create local social and cultural centers, foster local innovations and entrepreneurship, use regional products and shorten supply chains, develop local services and initiatives, design according to regional traditions, adapt to the needs of elderly and disabled, create green social spaces where people can meet.
- *Provide compact development and integrated sustainable mobility*: develop compact cities, where the need to travel is reduced, create self-sustainable neighborhoods where all institutions, shops and services are close, create pedestrian areas, minimize use of cars, encourage use of bikes.
- *Cater for resilient neighborhoods*: create districts able to transform and adapt to changes and uncertainty.
- *Ensure democratic governance and empower neighborhood residents*: foster civic society by consultation processes and local participation, give access to information, create educational programs for youth, raise awareness of inhabitants, inform about sustainable choices in vicinity.
- *Satisfaction of human needs*: make sure all inhabitants have access to facilities raising quality of life, fight with inequality, exclusion and segregation, assist disadvantaged, use regulations and administrative procedures.
- *Consider neighborhood impact on the wider environment*: investigate consumption patterns, construction and waste disposal, encourage change for sustainable lifestyle in other places using the neighborhood as a case, use and set sustainability measures in the locality to encourage city authorities to spread it.

All actions mentioned above may be taken provided that the basic needs are fulfilled. One third of world's urban population lives in the informal neighborhoods which makes sustainable urban development a major challenge and goal[251].

As stated earlier, there are numerous lists of sustainable urban indicators proposed by multiple regional and international organizations. One of them is International Urban Sustainability Indicators List (IUSIL)[252] launched by European Foundation for the Improvement of Living and Working Conditions[253].

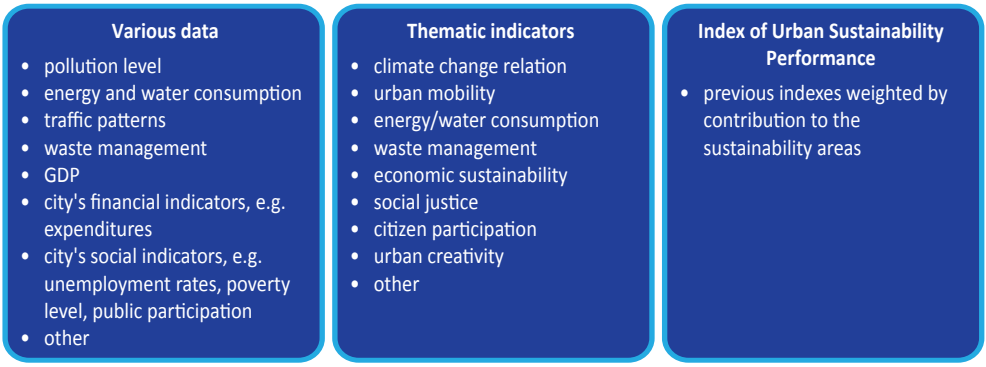
The construction of the indicators includes areas as illustrated in the Figure 7.1.

[251] United Nations, *The millennium development goals report 2011*, New York United Nations, Department of Economic and Social Affairs, Population Division, 2011.

[252] G. Yalcin, *Urban activities in the view of the sustainable development*, "Procedia Technology" 12, 2014, pp. 566 – 571.

[253] It is an autonomous body of the European Union, created to assist the formulation of future policy on social and work-related matters. Further information can be found at the Foundation's web site: http//www.eurofound.ie/.

Figure 7.1. Index of Urban Sustainability Performance



Source: own elaboration based on *Urban Sustainability Indicators*, V. Mega, J. Pedersen, European Foundation for the Improvement of Living and Working Conditions, Dublin, 1998, p. 15.

Sustainable urban strategy is a composite concept and as such includes a number of areas which are listed in Table 7.1.

Table 7.1. Areas of Sustainable Urban Strategy

Urban Sustainability Stategy
• Global Change
• Urban Metabolism
• Resources Consumption
• Urban Mobility
• Economic Growth
• City Deficit
• Employment
• Environmental & Social Expenditure
• Citizen Participation
• Urban Safety
• Public Health
• Social Justice

Source: own work based on Figure 3. Composing Urban Policies and Performance Indicators, Urban Sustainability Indicators, V. Mega, J. Pedersen, *European Foundation for the Improvement of Living and Working Conditions*, Dublin, 1998, p. 17.

Sustainable city concepts

Increasingly many people decide to live in cities. If this trend continues in the next 10 years, there will be 1 billion urban inhabitants and 8 megacities, each over 10 million inhabitants. This trend poses substantial challenges, e.g. balancing fast social and economic development, resource use and environmental protection in cities. It is especially the case in China, where 7 out of 10 most

polluted cities are located. Inclusion of sustainable principles in cities takes various forms. Example of them were presented by Liu et al.[254]:

Focus on environmental issues in the 1990s: Chinese environmental policy started in the 1970s. Actions were mostly concentrated on monitoring the pollution and end-of-pipeline solutions[255]. A turning point and major change in the strategy happened after 1992 when the UN Conference on Environment and Development in Rio de Janeiro took place. Agenda 21 was created for China and on the local level. The promotion of concepts such as Green City, Garden City and National Environmental Protection Model City was held and concepts started being implemented.

Green City: It's a concept commonly implemented on the local level in China, fostered by the cities, enterprises and NGOs. There is no proof it have been actively supported by the central government or some top-town definition or guidelines were given. As a result it was differently defined over the time. First, it was meant as more green spaces, e.g. parks in cities, but as the concept of sustainable development became more and more popular with decision makers it was given a broader meaning. Nowadays, it is not only green spaces in an urban area, but also an integrated system of environmental, economic and social aspects. Concepts as Eco-city or Low carbon, which appeared latter are now accepted as a step towards reaching a green city. It is important to notice that green city is a vague term and as such it is only used as a concept, no practical approach in China.

Garden City: Since the conference in Rio, China engaged two departments to pursue national sustainable development strategy, establish goals, standards and introduce sustainable city concepts. In 1992, the Ministry of Housing and Urban-Rural Development (MOHURD) suggested an idea named National Garden City[256], which was followed by the publication of criteria and constant updating of them. These standards show that the concept put an emphasis on the landscape and green spaces. MOHURD each year grants some cities the National Garden City status.

National Environmental Protection Model City: It's a concept proposed by the Ministry of Environmental Protection of China in 1997. The

254 *Ibidem*, p.25.

255 K. Zhang, Z. Wen, *Review and challenges of policies of environmental protection and sustainable development in China*, "Journal of Environmental Management", 88(4), 2008, pp.1249-1261.

256 MOHURD, *The national standards for developing national garden city (in Chinese)*, http://www.mohurd.gov.cn/zcfg/jsbwj_0/jsbwjcsjs/200611/t20061101_156922.html, 2000, 14.06.01.

definition includes fast economic growth, clean environment and a healthy ecosystem. It covers numerous indicators relating to environmental, social and economic aspects[257]. Each year MEP awards some cities with the status.

After 2000, the concepts took a more holistic approach. They aimed at implementing a national sustainable development strategy as well as concentrating on climate change and energy – the topics which became increasingly important for China:[258]

Eco-city: The very idea of ecological principles to be used in city planning begun in 1980s at the local level and later was used in the "Guidelines for Building National Eco-Demonstration Communities (1996-2050)" by MEP. Massive natural catastrophe in 1998 in the region of Yangtze region resulted in speeding the efforts in environmental conservation. From 2000 many regulations, laws and guidelines were adopted[259]. Ideas of Eco-county, Eco-city and Eco-province were proposed in 2003 and new standards set in 2007[260]. The aims include "protecting and rebuilding the eco-environment, improving the traditional resource-dependent development model, achieving higher economic development at a lower resource and environment cost". The emphasis is put on the environmental and economic aspect. The related concept is the Eco-garden City launched by MUHURD, but it focuses more on the infrastructure. Another related type are the cities involving international partnerships. Some of the projects are Sino-Singapore Tianjin Eco-city and Tangshan Bay Eco-city. Managed by local, provincial and central authorities they keep the high profile and draw public and private attention to the concept. According to Chinese Society for Urban Studies, 90% of 600 Chinese cities expressed an intention to develop into eco-city[261].

Low-carbon City: This concept is related to multiple others connected to the minimizing carbon emissions, e.g. the "Low-carbon Economy", "Low-carbon Technology", "Low-carbon Development", "Low-carbon

257 Ministry of Environmental Protection, *The introduction of national environmental protection model city (in Chinese)*, http://wfs.mep.gov.cn/mfcs/index.htm, 2009, 14.06.05.

258 H. Liu et al., *op. cit.*, pp.25-26.

259 K. Zhang, Z. Wen, Z. *op. cit.*

260 *Sino-Singapore Tianjin Eco-City (SSTEC): A case study of an emerging eco-city in China*, Washington D.C., World Bank, 2009.

261 *China low-carbon eco-city development report*, China Building Industry Press, Chinese Society for Urban Studies, 2011.

Lifestyle". GHG emissions were especially a concern in China which is rising energy use and accelerating economic growth. Therefore some efforts were taken to increase the efficiency and start the combat towards climate change. The project named "Low Carbon City Initiative in China" started by World Wildlife Fund (WWF) begun in 1997 in order to lower carbon emissions in Chinese cities. Shanghai and Baoding were chosen the pilot cities[262]. In 2009 Chinese central government committed to major carbon dioxide emission reductions (40-45% until 2020 taking 2005 as a baseline). This was followed by setting Low-carbon Province and Low-carbon City experimental projects in 8 cities and 5 provinces. This concept gained also popularity on the international level. In China it is used in the context of low carbon economy[263]. Evaluation methodologies are developed locally because there is no benchmark to compare.

Low-carbon Eco-city: Eco-civilization was one of the ideas promoted during the 17th National Congress of the Chinese Communist Party in 2007. It was the first time when ecological issues were included in the party's political report. It was a reaction to the MEP report from 2006 showing no advances in the environmental situation and that it affects people increasingly often[264]. As a result of nation-wide discussion and MOHURD promotional campaign in 2009, the concept of Low-carbon Eco-city emerged. It is a combination of the two previous concepts and is highly supported by the authorities.

Governmental programs and ministerial proposals are in place, but implementation and introduction of sustainable urban development are still a challenge. Chinese authorities use three different ways to promote the idea of a sustainable city which may also work in other places[265]:

- Construction and creation of the model cities which can hopefully be replicated by the other. Some are developed in cooperation with foreign entities, which adds prestige and interest, and enables fast adaptation of those experiences in Chinese context.
- System of awards for cities which encourages achieving targets and fulfilling standards. It is also used for city branding.

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262 WWF, *Low carbon city initiative in China*, 2007.

263 It was first proposed by the UK government in the energy white paper "Our Energy Future-Creating a Low Carbon Economy".

264 MEP, *China environmental statistical yearbook 2006. Beijing: Ministry of Environmental Protection of the People's Republic of China*, 2007, http://english.mep.gov.cn/standards_reports/EnvironmentalStatistics/yearbook2006/, 14.05.13.

265 H. Liu et al., *op. cit.*, p.27.

- Promotion of general sustainable urban development and encouraging local authorities to find their approach to reach it. It's an example of a bottom-up process.

The Chinese example shows why some of the projects fail. The most common reasons for this are as follows[266]:

- exaggerated focus on environmental and energy goals and undertreatment of social and cultural aspects;
- no consultation processes with local community and the resulting lack of participation;
- changes in the government;
- little understanding of the local context, especially when it comes to land use.

Within the past years, the world has faced increasingly large urban sprawl. The amount of urban and suburban areas is growing. At the same time, more and more people call for the compact city idea (or smart growth) to reduce excessive energy consumption of urban organisms with low density[267]. This move includes the numerous benefits[268]:

- decreasing costs of infrastructure and services;
- better access to urban facilities;
- creation of sustainable green jobs;
- amended social integration and higher life quality especially of poor areas.

Some solutions appear in the cities organically, as they naturally seek for most efficient and energy-saving solutions in construction or transportation[269].

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266 *Ibidem*, p. 29. Asian Development Bank, *Urban innovations and best practices, sustainable urban development in The People's Republic of China: Eco-city development-a new and sustainable way forward?*, http://www.adb.org/publications/eco-city-development-new-and-sustainable-way-forward, 2010, 14.05.13. Hald, M., *Sustainable urban development and the Chinese eco-city: Concepts, strategies, policies and assessments*, http://dspace.cigilibrary.org/jspui/handle/123456789/27460, 2010, 14.05.13. Sino-Singapore Tianjin Eco-City (SSTEC): A case study of an emerging eco-city in China, World Bank, Washington D.C., 2009.

267 O. Mindali, A. Rowe, I. Salomon, *Urban density and energy consumption: A new look at old statistics. Transport Research Part A: Policy and Practice*, 2004, 38(2),143-162. Q. Chen, Q., et al., Sustainable Futures for Linden Village: A model for increasing social capital and the quality of life in an urban neighborhood, "Sustainable Cities and Society", 2014, http://dx.doi.org/10.1016/j.scs, 2014.04.08.

268 C.S. Acey, T. H. Culhane, *Green jobs, livelihoods and the post-carbon economy in African cities. Local Environment*, "The International Journal of Justice and Sustainability",2013, http://dx.doi.org/10.1080/13549839.2012.752801, pp. 1-20.

269 N. B. Grimm, et al., *Global change and the ecology of cities*, "Science", 2008, 319(5864), 5, pp. 756-760. C. Luederitz, D. J. Lang, H.Von Wehrden, *A systematic review of guiding principles for sustainable urban neighborhood development*, Landscape and Urban Planning, 118, 2013, pp. 40-52.

Some project name themselves sustainable even though the city is an unsustainable product *per se*[270].

In this context, an interesting case is the comparison between metropolitan cities of Hong Kong and London, done by P. Higgins[271]. Both cities went under transformation from the concentration on sustainable development to the management of carbon emissions. Both have changed their urban planning policies towards sustainable development and settled goals for the mitigation.

Both Hong Kong and London have been dealing with similar issues coming after de-industrialization processes – financial turbulences, climate change, ageing population, increasing important quality of life[272].

To better understand taken actions it is good to look at some basic vocabulary related to sustainable urban transformation explained by P. Higgins[273]:

- *Resilience* – an ability of social or ecological system to absorb disturbances while retaining the same basic structure and way of functioning, the capacity for self-organisation and the capacity to adapt to stress and change.
- *Vulnerability* – a degree to which the system is susceptible to and unable to cope with adverse effect of climate change, including climate variability and extremes. It is a function of the character, magnitude and rate of climate and and variation to which the system is exposed, its sensitivity and adaptive capability.
- *Adaptive capacity* – the ability of a system to adjust to climate change (including climate variability and extremes) to moderate potential damages, to take advantage of opportunities or cope with the consequences.
- *Mitigation* – actions to reduce the impact of human activity on the climate system, primarily through reductng net greenhouse gas emissions, for example carbon dioxide.
- *Risk* – a combination of the probability of an event and its consequences with several ways of combing these two factors being possible. It can be positive or negative and measure qualitatively or quantitatively.

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270 J. Wu, *Urban sustainability: An inevitable goal of landscape research*, "Landscape Ecology", 2009, 25(1), http://dx.doi.org/10.1007/s10980-009-9444-7, pp. 1-4. P. Desai, *Creating low carbon communities: One planet living solutions*, "Globalizations", 2008, 5(1), pp. 67-71.

271 P. Higgins, *From sustainable development to carbon control: urban transformation in Hong Kong and London*, "Journal of Cleaner Production" 50, 2013, 56-67.

272 *Ibidem*, p. 58.

273 P. Higgins, *op. cit.*, p. 63. DEFRA, *Adapting to Climate Change Predictions*, UK Climate Projections. Crown, London 2009. IPCC, *op. cit.*

However, there is also some criticism and some doubts that all those actions taken by the city do not change the overall situation and have no effect on deteriorating situation in the world. On the opposite they create a lot of work places and business opportunities in allegedly green sector[274].

Many actions taken by the cities depend on the niche innovations. What is actually needed is a shift in all segments of the land use and transportation system. Those forms of infrastructure should be in line with sustainable development objectives[275]. More specifically, the recommended model is adopting a low-carbon and less unsustainable society according to the ideal of the compact city[276]. As mentioned before this concept include minimizing costs of the infrastructure, i.e. cars and other vehicles, making people at the same time less car dependent, enable shorter journeys and commuting and smaller per capita energy consumption. Low-density cities face some problems such as difficult and expensive public transport which leads to excessive use of energy and increased greenhouse gas emissions. The places which should be located in the city center are residential areas, offices and workplaces and specialized services. Local services can be at the medium distances such as primary schools, kindergartens, shops – should be still reachable from residential areas. Some that may be rather close to the suburbs are freight-generating and area-demanding plants, factories, warehouses which should be close to the main roads[277].

There is a difference between sustainable urban development and sustainable urban transformation. It was explained by Camagni[278], who defined sustainable urban development as: "A process of synergistic integration and co-evolution among great subsystems making up a city (economic, social, physical and environmental), which guarantees the local population a non-decreasing level of well-being in the long term, without compromising the possibilities of development of surrounding areas and contributing by this towards reducing the harmful effects of development on the biosphere." Sustainable urban transformation concentrates on "structural transformation processes, both multidimensional and radical change, which can effectively direct urban development towards sustainability"[279].

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274 P. Higgins, op.cit, p. 66.

275 P. Nćss, N. Vogel, *Sustainable urban development and the multi-level transition perspective*, "Environmental Innovation and Societal Transitions" 4, 2012, p. 36.

276 *Ibidem*, p. 37.

277 *Ibidem*, p. 38.

278 R. Camagni, *Sustainable urban development: definition and reasons for a research programme*, "International Journal of Environment and Pollution", 1998, 10 (1), pp. 6-26.

279 K. McCormick, et al., *Advancing sustainable urban transformation*, "Journal of Cleaner Production", 50, 2013, p. 4.

The framework for sustainable urban transformation consists of[280]:

- governance and planning: different approaches towards strategic planning, integration of policy instruments, involvement of key stakeholders;
- innovation and competitiveness: innovation and clean technologies as the most important for fostering cities position in the global competitiveness;
- lifestyle and consumption: way to improve the quality of life;
- resource management and climate change: shift towards renewable resources, material efficiency, water supply and transforming waste management;
- transport and accessibility
- buildings: which should be affordable, attractive, comfortable, efficient and sustainable;
- spacial environment and public space: to encourage social interaction and integrate blue and green spaces.

Current topics for sustainable urban transformation are among the others governance and planning, collaboration and learning, infrastructure and resilience, buildings and surroundings.

They correspond with the common issues:[281]

- complexity, scale and context-dependency of the cities;
- variety of regimes in all sectors;
- altering the composition of well-experienced old solutions;
- sustainable and unsustainable niche technologies;
- internal rules of existing build environment;
- transition to no growth in building stock and mobility;
- landscape conditions;
- back casting the utopian sustainability.

One of the cases illustrating adaptations from multi-level perspective may be the city of Fredericia in Denmark[282].

Sustainable urban development has been measured via numerous indicators in different countries. For example, Japanese standards for sustainable building and urbanization are set in the Comprehensive Assessment System for Building Environmental Efficiency (CASBEE for an Urban Area+ Building), in the US the LEED (Leadership in Energy and Environmental Design) for Neighbourhood

[280] *Ibidem*, p. 4-5.

[281] *Ibidem*, s. 41-46.

[282] See: P. Nćss, *op. cit.*, p. 46.

Development Rating Systems is used, there are the Green Building Index (GBI) Assessment Criteria for Non-Residential and Eco Homes in Malaysia, BREEAM in the UK, Green Star for Multi-Unit Residential in Australia, and Green Mark for Residential Building in Singapore[283]. Most of the systems comprise three pillars of sustainable development and consider land use, communication, transportation and housing performance[284]. Most of them include such criteria as site, energy, material resources, water, transport as well as social aspects. Less used are: indoor environment, health, economy, services, and functionality. The least common are comfort, management, long time performance, design aesthetics[285]. Most countries have developed their own building assessment tools. Sometimes as in UK they are specific for each kind of buildings (Ecohomes, Healthcare, Industrial, Multi-residential, Prisons, Office, Retail and Education Buildings). Evaluating the building environmental performance together with its surrounding is considered as essential. The system meeting this goal is e.g. the Comprehensive Assessment System for Sustainable Urban Development (CASSUD). The tools now used for the assessment may be also considered for the design and construction process[286].

Some events such as the Climate Change Conference in Copenhagen, Denmark in 2009 and the Earth Summit in Rio de Janeiro, Brazil in 2012 fostered discussion about limitations of the current agreements. They also helped to shape better quality of programs and actions taken by various actors and local governments. Cities are subject to various pressures and have to be at the same time attractive and inclusive, sustainable and resilient and innovative from the local, national and international perspective[287]. Cities are not isolated entities and they can bring the change on the larger scale and affect local economy[288]. Various alliances were formed to address the issues of sustainable urban development. Two of them operating on the global scale are UN Settlements Program (called UN-Habitat) and ICLEI Local Governments for Sustainability. The latter is an association of more than 1200 local governments which joined forces to work on sustainable development. UN-Habitat gathers stakeholders

283 S.K. SooCheen, and Abu Bakar, A.H., *Incorporating sustainable management system into housing development practice in Malaysia*', Int. J. Sustainable Development, 2012, 15(3), pp. 277-291.

284 *Ibidem*.

285 A. Bakar, K. SooCheen, *A Framework for Assessing the Sustainable Urban Development*, Procedia – Social and Behavioral Sciences, 85 (2013), p. 488.

286 *Ibidem*, p. 491.

287 N. Kautto, Towards sustainable communities, Paper for the Sustainable Communities Forum for Local Government, 30 March 2012, Melbourne, Australia. UN-Habitat, *State of the World's Cities 2008/2009: Harmonious Cities*. Earthscan, London, 2008.

288 I.G. Theaker, Cole, R.C., *The role of local governments in fostering "green" buildings: a case study*, Building Research and Information 2001, 29 (5), 394-408.

who conduct work related to sustainable development in urban and rural areas. There are numerous problems of social and economic nature that appear in cities: poverty and segregation, tensions between different groups, and economic vulnerability, pollution, resource use, congestion and spatial competition[289] and in the developing world: poverty, over-population, unhealthy housing conditions, inadequate infrastructure, hygienic problems, poor water quality and uncontrolled pollution, and in developed: segregation and growing social tensions, local traffic problems, continuous growth of solid waste generation, and the large and often inefficient consumption of energy and material with linkages to climate change. But they also create the environment to solve it such as new technologies, infrastructure innovations, new consumer cultures and attitudes, head office functions, cultural influences. UN-Habitat has shown how different are problems of the cities. The so called "urban divide" show disparities between rich and poor settlements[290], as well as between big and small cities[291].

7.2. Thematic approach to sustainable urban development

There are some challenges for cities and these include resource management, transportation systems, waste and recycling systems, construction and design. The aim of this part is to deepen our understanding of these issues.

7.2.1. Energy and water resources

Creation and development of cities greatly increases demand for both water and energy in the region.

The issue of water in the city involves:

- so called 'blue space' in places located at the riverfront, seaside or lakes – areas around blue and green spaces become some of most desirable locations[292].
- drinkable tap water for the inhabitants – currently the main challenge for most of urban areas is to maintain the capacity to provide drinking water supply from the groundwater[293].

[289] M. Legner, Lilja, S., *Living Cities: An Anthology in Urban Environmental History*. FORMAS, Stockholm2010.

[290] UN-Habitat, *op. cit.*

[291] K. McCormick et al., *op. cit.*, p. 3.

[292] *Copenhagen: Solutions for sustainable cities*, January 2014, 3rd edition, City of Copenhagen, City Hall, pp. 15-17.

[293] *Ibidem*, pp. 19-21.

Another important resource essential for the existence of cities is energy and electricity. We can look at this problem from the point of view of energy production and energy consumption. Of all possible energy sources, some may be used in cities. Depending on the location, environmental conditions and financing, various options are possible. These include renewable energy sources, such as: wind turbines, solar panels and hydropower, and sometimes from thermal sources as in Zakopane in Poland. At the same time, it is crucial to include sustainable energy consumption patterns in cities. For example, Vattenfall company introduced a program designed for Warsaw and Pruszków citizens[294]. It organised an educational campaign (more than 500 people visited the project's website), and engaged media and five primary schools[295]. A social campaign was organized by RWE Stoen "Swiadoma Energia" to raise awareness of simple solutions helping to reduce energy use[296].

In the future, both human population and energy use will continue to grow. The latter both per capita and as global demand total. At the same time, world energy resources are limited and energy efficiency remains an issue for many economies. Global and local projections involving many different types of energy resources are obligatory to forecast the future needs of each region of the world. Accessibility of inexpensive and easily transportable fuel is crucial for the developing regions to increase their energy capacities, to advance their standards of living, and to stabilize their populations. The challenges seem greater for Asia and Africa. Although these continents potentially have greater fossil fuel resources than predicted, better efficiency in the use of all energy resources will be essential in providing a sustainable economy[297].

7.2.2. Transportation systems

As the world is becoming global, transportation systems are playing an increasingly important role in modern societies. Cities, being most often business, administrative and cultural hubs, need to be connected with others through a dense network of airplane, train and ferry connections depending on their location. This shows the complex role of transport measures in sustainable urban development. One aspect is connecting the city with other spatial entities in the region, country and hubs abroad. The other aspect is solutions regarding

294 Raport *„Odpowiedzialny biznes w Polsce 2008. Dobre praktyki"*, FOB, Warszawa, 2009, p. 62.

295 *Ibidem*, p. 64.

296 *Ibidem*, p. 62.

297 J. Sheffield, *Future world energy needs and resources*, in: "Energy: Science, policy, and the pursuit of Sustainability", ed. R. Bent, L. Orr, and R. Baker, Island Press, Washington, DC, 2002, pp. 37-75.

transport within the administrative borders of the city, namely connecting suburbs with the city centre, housing areas with working spaces.

There are numerous solutions used to deal with both aspects. Starting from the smallest distances, we consider which may be applied in urban areas to raise their sustainability:[298]

- Walking – the easiest and most natural way of getting from place A to place B, in retreat after development of the car industry in the 1960s. Soon cities infrastructure was adapted to accommodate more cars while the spaces for pedestrians were reduced. In some cases walking was dangerous due to the lack of pavements or possible health problems linked to air pollution. Another effect was that streets became empty with no people walking and cars stuck in traffic jams. One of cities which early begun to deal with this issue was Copenhagen. Some streets were closed for cars and mechanical vehicles. Public opinion was divided. Business owners which were located at these streets expressed concerns that this step will harm their operations. However, the effect was quite the opposite. Pedestrian areas soon attracted inhabitants and tourists and local shops were thriving. Another city, which took this policy was Melbourne. Concerned about an empty city centre, authorities begun cooperation with Danish researchers and the solution was successfully transplanted.
- Cycling – a good solution for small and medium distances, cycling was a tradition in some Scandinavian countries. It is a quick and convenient way of commuting to schools or workplaces. It bears some costs, as it requires basic infrastructure to ensure safety for users (cycle lanes). Increasingly, cities offer public bikes for inhabitants and sometimes visitors, e.g. London, Barcelona, Warsaw, Paris, etc. Among numerous benefits of this option, some should be recalled: reducing noise and air pollution, minimizing CO_2 emissions, healthier citizens, low-cost infrastructure, short journeys and less congestions, improved city life[299]. In case of Copenhagen, cycling saves 230 million EUR of health expenses by year, gives 0,16 EUR of net social gain for every km travelled by bike instead of car and 0,77 EUR health care costs per km cycled.
- Integrated public transport – a good and integrated public transport system gives an inexpensive way of moving and reduces air pollution, CO^2 emissions and congestion. The key element is integration and good matching between different modes: metro, trains, buses, as well as

[298] *Copenhagen: Solutions for sustainable cities, op. cit.*, p. 7.

[299] *Copenhagen: Solutions for sustainable cities, op. cit.*, p.7.

possibilities for transporting bikes or animals. This solution saves time and money of the inhabitants.

- Water transport – in some cities, located by the river or at the seaside, boats or ferries remain the best modes of transport. Most often they significantly shorten the time of the journey and are all integrated into the public transportation system. Additionally, they foster other operations for the sustainable water spaces such as: modernising the sewage system, adopting the cleaning programmes, including urban design to create recreational spaces. As result it raises the value of nearby real estate, quality of life, tourism, income of local businesses[300].
- Train network – another solution that encourages citizens to reduce car travel. If the system is dense and reliable, most people will choose the train connections. It also serves tourism development. Among many benefits to be named, are protection of the environment, congestion reduction, cost saving, tourism enhancement, etc.
- Planes – nowadays most business centres need to be connected with others by flight connections. This solution for large distances is considered unsustainable. Its impact may be reduced by using CO^2-offseting schemes offered by e.g. Myclimate company[301].

In addition, walking and cycling has positive effects on the health of the population. With the governments taking actions against obesity and inventing policies to encourage people to lead a healthy lifestyle, much can be changed by choosing walking or cycling to and from school or work.

7.2.3. Waste management and recycling

As the global population keeps growing, managing waste and sewage becomes a major challenge for many urban areas. The complexity of the problem includes a number of issues related to sustainability such as resource use, extensive consumption, recycling and reuse, etc. An ideal path for waste management is shown in Figure 7.2.

Numerous benefits are achieved through waste management process. These include: protecting scarce resources, creating recyclable materials which stay in the loop, creating recyclable products markets[302].

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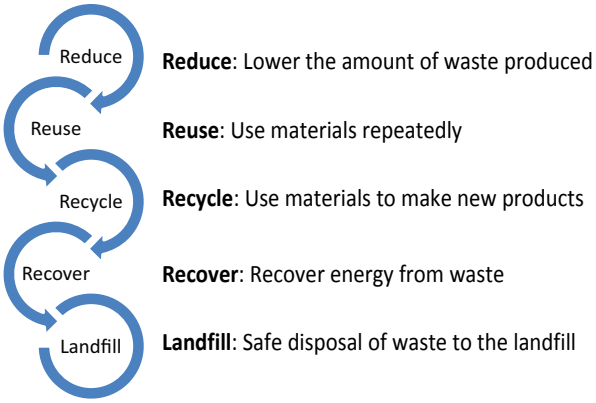
300 *Ibidem*, p. 15.

301 K. Negacz, *The Making of South Pole Carbon: How to Become a Social Entrepreneur?*, Huffington Post: Social entrepreneurship section, http://www.huffingtonpost.com/student-reporter/the-making-of-south-poleb3161099.html, 26.04.2013.

302 *Copenhagen: Solutions for sustainable cities*, op.cit, p. 26.

Figure 7.2. Waste disposal options from most to least favoured



Source: *Copenhagen. Solutions for Sustainable cities*. January 2014, 3rd Edition, City of Copenhagen, p. 26.

For example, in Copenhagen, the approach towards the challenge has been called "A city without waste but full of resources". The ambitious goals include 45% of household waste being recycled by 2018 and zero waste city by 2050. There are also multiple flagship projects started to solve the issue of waste, e.g.: Sydhavn Recycling Centre (for spreading innovation and knowledge) and Copenhagen waste sorting (natural way for everybody).

An interesting model called Pay As You Throw (PAYT) is used in Taipei, Taiwan. Citizens and companies buy special blue bags and put waste in them. The city services collect only waste in these special bags. This model encourages recyclable materials. Those do not have to be placed in the blue bags and are collected free of charge. This scheme is called "Per Bag Trash Collection Fee"[303].

Another interesting case is Belo Horizonte which runs door-to-door collection of recyclable materials for 14% of city inhabitants. City trucks do it once a week and deliver to waste-picker led cooperatives for sorting and processing. This example of cooperation between local authorities and informal sector creates employment for 600 people and increase recycling[304].

[303] J. Ross, *What I Picked Up About Trash in Taipei*, http://www.washingtonpost.com/wp-dyn/content/article/2007/11/29/AR2007112901887.html, December 2, 2007, 15.06.2014.

[304] *Going Green. How cities are leading the next economy*, P. Rode, G. Floater, LSE Library Services, London, 2013, p. 17.

7.2.4. Construction and design of buildings

The last subtopic covers a substantial part of every city – buildings. Since the beginning of what people have been looking for effective solutions to keep buildings warm in the winter and cold in the summer. At present, we continue our efforts to meet these goals. They are even more important as they help to save energy, emit less carbon, minimize waste production or simply save money for inhabitants. As much important as creating reliable and environment-friendly municipal heating system, it is crucial to design solutions for cooling the buildings to reduce noise pollution in the summer, lower health risks (e.g. legionnaire's disease) and increase energy security without deteriorating the look of the building. This can be achieved through such architectural solutions as rooftop terraces or Spanish buildings having a type of atrium in the middle which serves as a natural cooling and ventilation system[305].

Another challenge is constructing buildings for life in the meaning that they can sustain longer and at the same time make inhabitant's life easier. Good quality, natural materials and innovative design projects improve the quality of life.

An interesting case is the movement of restoring old buildings and bringing new functions into them. For example, an old church in Maastricht has been converted into a library. Built in 1294, it was now expected to have 1,200 square meters of shopping space, although it has only 750 square meters of floor space. That is why architects decided to design vertically. Beautiful paintings and unique atmosphere make an enormous impression on visitors[306].

* * *

Cities pursue various projects to integrate sustainable solutions into their operations. During one of the e-learning seminars students were asked to present examples of these projects. Their results are presented in Table 7.2.

[305] *Copenhagen: Solutions for sustainable cities*, *op. cit.*, pp. 36-37.

[306] *Old Church Converted into a Modern Bookstore*, http://www.mymodernmet.com/profiles/blogs/merkx-girod-selexyz-dominicanen-maastricht-bookstore-church, March 16, 2012, 2014.06.15.

Table 7.2. Sustainable solutions related to most challenging problems in chosen cities

Chosen city	Sustainable solutions
Europe	
Amsterdam, The Netherlands	• **Entrepreneurs –** implementation of Smart meters which measure energy consumption and can be connected to energy-saving appliances; energy display providing feedback on energy consumption and giving personal energy-saving tips; smart Plugs that automatically dim or shut down unused appliances and lights. • **Public space –** integrated sustainable street lighting; tram stops that are provided with energy saving lighting; solar-powered BigBelly waste bins with built-in garbage compacters, allowing the bins to be emptied five times less frequently; reverse osmosis water column on a central location that limits the miles that cleaning vehicles have to drive to refill. • **Logistics –** waste is collected using electric vehicles from a single provider, minimizing CO_2 emissions and optimization of logistical processes through clustering.
Bristol, UK	• **The energy-efficient city –** Bristol uses less energy per household than any major UK city, with residents saving about £150 each on their heating bills since 2005. Its £140m energy investment program will improve thousands of homes, more than double the city's solar generation and pioneer district heating.
Freiburg, Germany	• **City of "short distances" –** a compact city with strong neighborhood centers where people's needs are within walking distance. The entire city center is a pedestrian zone. • **Public transport –** there are five mechanisms to encourage healthy and sustainable transportation modes: 1. Extension of the public transportation network; 2. Traffic restraint; 3. Channeling individual motorized vehicle traffic; 4. Parking space management; and 5. Promotion of cycling. • **Renewables at Freiburg's –** solar, wind, hydropower, and biomass energy sources. The city is home to approximately 400 photovoltaic installations on both public and private buildings.
Grenoble, France	• **Sustainable housing –** a thermic renovation scheme for more than 2000 social houses to curb global warming and energy consumption. Energy savings total to 30-40%. Private houses are supported in the program "MurMur". • **Sustainable transport –** the development of bicycle paths and car sharing. It has reduced by 80 000 the number of vehicles which cross the territory of Grenoble every day. Number of bikers increased twofold from 2002 to 2010. • **Water management –** a high-quality and not chlorinated water for citizens
Kiev, Ukraine	• **Electricity sources** -a project of building Dnipro hydropower station, which is expected to provide the city with 500 GWh electricity. The World Bank participates in project financing. • **CO_2 emission and traffic –** Kiev's municipal traffic agency received €15 million loan from European Bank for Reconstruction and Development (EBRD) to implement special information-technology based system of traffic management. Advantages of that system include: efficient management, improvement of road safety and air quality through lower congestion levels. • **Air quality –** 460 transportation units were equipped with technology to reduce pollutants from exhaust fumes.

London, UK	• **London Array Offshore Wind Farm** – the most widely known UK offshore wind farm. Its 175 turbines are capable of generating enough energy to power nearly half a million UK homes and reduce harmful CO_2 emissions. • **The London congestion charge** – a fee charged on most motor vehicles operating within the Congestion Charge Zone in central London between 07:00 and 18:00 Monday to Friday. Tolling system caused levels of nitrogen oxides (NOX) to fell by 13.4% between 2002 & 2003. • **Waste management system** – offer a safe and secure alternative to landfill disposal. Regulated facilities recycle materials, compost organic waste and recover energy from waste - enough to power 72,000 homes throughout the year.
Olsztyn, Poland	• **Bike lanes** – project of developing of bicycle paths, not only to introduce the greener city transport but greener tourism was also an objective. During construction the number of cut down trees was reduced to minimum to underline the environmental character of the project. **Waste management** – construction of the Municipal Waste Disposal Facility and introducing the new system of municipal waste management. Thanks to those actions it was possible to achieve the reduced level of stocked waste, increasing importance of recycling and usage of biodegradables. **Urban regeneration projects** – regeneration of industry degraded areas through elimination of the biggest sources of polluting groundwater. The aim of the process was to introduce the innovative research solutions to identify the sources of pollution.
Oslo, Norway	• **Waste – to – Energy project** – an integrated solution for waste treatment, energy recovery and district heating including increased use of renewable energy; parallel project of Ramboll for a plant producing biogas from organic waste to be used as bio fuel buses in Oslo and extended thermal treatment of the residual waste with heat and electricity production at Klemetsrud waste-to-energy facility. • **Fuel Cell Buses** – the fuel cell bus project from May 2012. • **Transportation system** – extensive network of trams, subways, buses and boats, as public transportation alternatives. The city establish a public bicycle system with over 100 bike stations in and around the city center (from early April to late November).
Stockolm, Sweden	• **Stockholm's Congestion Pricing Solution** – a 4.5% increase in public transport, traffic is down by 18%, waiting time to enter the city center during peak hours has been reduced by 50%. • **Zero waste management** – households reuse, recycle or compost materials. Some companies follow the idea. For example, H&M has begun accepting used clothing from customers in exchange for rebate coupons in an initiative called Garment Collecting. The Optibag company has developed a machine that can separate colored waste bags from each other automatically. • **Green buildings** – Stockholm Waterfront Congress Centre is the city's most multipurpose large-scale venue. It is a mix of hotel, conference center and business offices with the world-class energy solution designed to cut CO_2 emissions and minimize impact on the environment and climate change.

Umea, Sweden	• **Education regarding sustainable environment** – Sustainable schools – more than 90% of schools/pre-schools in Umeå are certified as Schools for sustainable development or Green flag. Umeå is also involved in RCE North Sweden, a United Nations certified regional centre of expertise (RCE) for education for sustainable development; SEE week – a week of activities in the city and region in social, economic and environmental sustainability (SEE); Be Green Umeå – a co-operation platform for communicating and demonstrating benefits of green mobility and living choices for citizens in the urban area. • **Investments in the green sector** – systematic socio-cultural, infastructural investments in sustainability from the 1950s and 60s; Umeå aims to be Europe's first climate neutral energy system by 2018. • **Innovation in green sector** – Green parking purchase; Sustainable Ålidhem; Cultivating microalgae in municipal/industrial wastewater by introducing flue gas to produce biomass suitable for use as biofuel; ultra fast-charging electric buses with hybrid back-up; open data and monitoring of strategic plans – European peer city network connected to the Reference framework for sustainable cities, RFSC.
Warsaw, Poland	• **Waste management system** – introduction of integrated recycling, • **Sustainable transportation** – hybrid buses on the streets and a new subway line. • **Participatory budget** – citizens decide about a part of the district budget expenses (educational, cultural and green initiatives).
World	
Chicago, US	• **Green Design** – the Chicago Water Agenda project for reducing the amount of stormwater draining into the sewer system and local waterways. Natural drainage practices, in combination with design approaches that minimize impervious areas, can significantly reduce development costs. The project includes concepts like: rain gardens, green roofs, drainage swales, natural landscaping, filter strips. • **Alternative Fuels** – promotion of alternative fuel vehicles powered by "clean" fuels such as compressed natural gas, E85, propane and biodiesel—in area fleets. The city also provides education programs for fleet operators. The program for taxicab owners - Green Taxi Program helps the taxi industry purchase cost-effective hybrid and alternative fuel vehicles. • **Chicago Solar Express** – accelerating solar energy by making installation of rooftop solar easier, cheaper, and faster (cutting fees, and reducing time-in-line, streamlining and standardizing permitting and zoning processes). Solar Chicago was a community-wide residential group solar discount program that helped homeowners (over 2,100 people).
Istambul, Turkey	• **Establishment of "Marmara"** – subway crossing the Bosphorus underwater whose aim was to decrease number of ships crossing the canal and polluting the water. • **Separated streets for rapid buses** – thanks to separation of one street from so that the cars cannot use it, the traffic may be decreased, people are more likely to use means of public transportation which do not stuck in the traffic.
New York, US	• **Transportation** – public transport used by majority of inhabitants, most of shopping centers are easy to reach by public transport. As a result carbon dioxide pollution and greenhouse gases are reduced. • **Emissions and air pollution** – the largest bus fleet in the country and there are some first hybrid taxis. Since 2005 Toyota Pruis and Honda Accord has assigned an agreement, in which those companies are obliged to supply cars with minimal carbon dioxide emissions. • **Farmer's markets** – Greenmarket program was established in 1976 by the Council of Environment New York. It gives opportunities for small farmers as well as for usual citizens to buy local fruit and vegetables. This program covers 45 markets. More than 100 restaurants use that opportunity.

San Fransisco, US	• **Urban Forest Master Plan** – growing the city's street tree population, expanding the tree canopy from 13% to 25% and thereby moderating the urban heat island effect. • **Green Connections** – is a two year project, which aims to make the City more healthy, sustainable, and livable through features such as pedestrian and bicycle infrastructure, street trees and other landscaping, storm water management, and opportunities for beautification, public art, and community stewardship. • **The Eco-District Program** – neighborhood scale public-private partnerships that strengthen the economy and reduce environmental impacts while creating a stronger sense of place and community.
Tokyo, Japan	• **Waste Management solutions** – Tokyo Metropolitan Waste Management Plan was renewed in 2011. The city has been promoting the 3R (reduce, reuse, recycle) through other policies including introducing recycling related legislation, pay as you throw program, and many others. It has formulated the Super Eco-Town project which is dedicated to more efficient disposal of industrial waste. • **Solutions for Air pollution** – Diesel Vehicle Emissions Control Program; Energy Saving Advisers, Green Building Program, Carbon reduction report program, Roof Lease matching program etc. • **Solutions for Urban Heat Island Effect** – introduction of rooftop gardens at 54.5 hectares of rooftops from 2005 (reducing temperature of concrete surfaces from 55 degrees C to about 30 degrees C).
Toronto, Canada	• **Water cooling system** – EnWave's Deep Lake – the largest of its kind in the world, cooling many major downtown office towers, institutions and hospitals, including City Hall. This system reduces the energy needed to cool these buildings by 90%. • **ReUSelt program** – it focuses on producing less trash. There are libraries with tools, kitchen equipment etc. so that people do not need to buy and keep items which they barely use. There are also public places for repairing clothes, kitchen equipment etc. • **Incentives** – the Toronto Green Standard (TGS) is a two-tier set of performance measures for sustainable site and building design. Tier 1 is required for new construction in Toronto and Tier 2 is a higher, voluntary level of performance with a financial incentive.
Vancouver, Canada	• **Expanded cycling network** – an extensive network of designated bike routes (248 miles worth, ride sharing programs, and greenways). • **Waste diversion program** – first Corporate Zero Waste Officer to implement a more comprehensive waste diversion program in most city facilities like offices, theatres, libraries and police departments (multi-stream recycling, full-scale composting, detailed data for all waste streams generated for all facilities). • **Updated green zoning policies** – from 2011, all new buildings on rezoned sites in the city have to be built according to LEED (Leadership in Energy and Environmental Design) Gold standard.

Source: based on the student replies during the seminar New Models of Urban Entrepreneurship 2014/2015.

7.3. New green professions

The emerging movement towards greener cities stimulates the labour market. As a result, more specialists in sustainable solutions will be needed in the future. In this part of the chapter, the author elaborates on: sustainable jobs in cities and education programs preparing professionals for these jobs.

7.3.1. Sustainable jobs in cities

Every workplace and profession can be sustainable. It is always the employee's choice to shape the reality around him or her and choose the right options. No matter if you work in a transnational corporation, a local shop or a nursery, you can introduce sustainable and green practices and give example to others.

In general, there are two types of approach to include sustainability at the workplace. You can become an intrapreneur or an entrepreneur in this aspect. An intrapreneur is employed in the organization, but willing to contribute to internal change. An entrepreneur implements business concepts himself. More information on this division can be found in the Chapter 5.

Nowadays, most of transnational corporations and bigger companies have corporate social responsibility departments or at least one person who is in charge of this subject. Numerous companies have developed special programs devoted to cities. One of them is Accenture which launched a program on intelligent cities. IBM explores the program called Smarter Cities Challenge.

There are also enterprises based on the sustainable development concept, taking it as a business model.

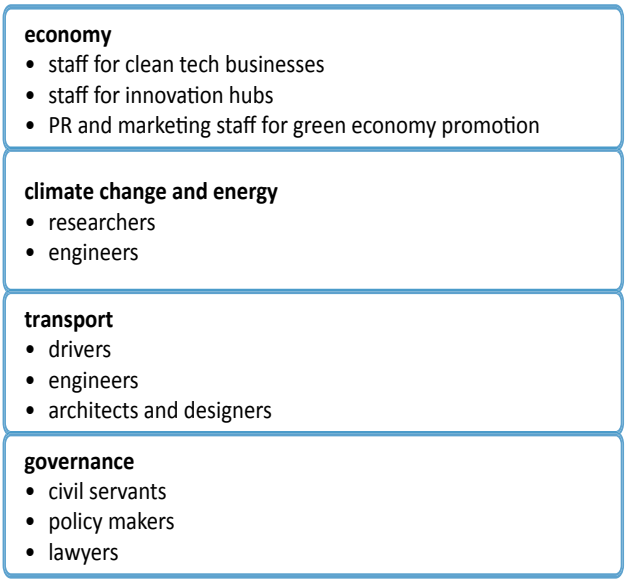
Cities' aspirations create opportunities for employment which are shown in Figure 7.3 below.

According to "Going Green. How cities are leading the next economy" report by the London School of Economics, there are a few urban aspirations which show the direction for industries development[307]:

- attracting clean tech businesses, innovations, promoting green economy;
- climate change with greenhouse gas emissions reduction;
- transport with walkable areas, electric mobility, collective and public transport;
- governance with responsible urban governance, transparent administration, community engagement;
- energy with reduced consumption, solar panels, reduced coal consumption.

[307] *Going Green..., op. cit.*, p. 27.

Figure 7.3. Employment in sustainable cities in selected fields



Source: Author's own work based on Going Green... *op. cit.*, p. 27.

Unemployment is a common problem in urban areas heavily relying on the coal industry and mining. Some fears are now expressed in Silesia in Poland that reducing coal use would lead to massive unemployment in the region. Many of its towns exist only thanks to the nearby mine or plant. However, the case of the Ruhr valley in Germany has shown that deindustrialization is possible. One of the leaders is the Hoerde district in Dortmund which was previously a base for heavy industry.

According to "Going Green" report, there is a number of skills related to green expertise which will be especially valuable, including the following (starting from the most needed)[308]:

- urban planning expertise;
- policy and legislation drafting;
- engineering or scientific expertise;
- community and social work skills;
- natural resources management expertise.

Cities are also a base for an increasing number of cooperatives of various kinds. Some focus on working with disabled people who offer products or food.

[308] *Going Green*, *op. cit.*, p. 35.

Others bring nature back to the city and supply fresh vegetables. A good example is Warsaw where food cooperatives are flourishing. Warszawska Kooperatywa Spożywcza, Kooperatywa Dobrze and RWS Świerże-Panki are good examples[309]. Another interesting concept is city gardening or guerilla gardening. The former assumes that there are numerous eatable plants in the city and one can plant or find them. The latter is slightly more extreme form were groups or individuals who individually start planting various plants around the city without asking for permission. There is a map of "eatable places" in Warsaw called Falling Fruit created by P. Jeziorek and J. Baltazar, an American artist living in Warsaw[310]. With the free product available in most of the cities, one have free resources to start a self-sustaining seasonal eatery.

An idea of how to start up a business with little resources comes from a restaurant in Copenhagen called Rub&Stub which battles waste of food. It works with a network of suppliers and acquires products that cannot be sold[311]. They are not old or past the expiry date. Rather than that, they have been discarded due to the aesthetic reasons: nonstandard shape, surplus production, etc. Additionally people who cook and serve meals are volunteers, so the restaurant only hires a manager and kitchen leader[312].

There is the evidence from France that emerging of the green public procurement networks influenced the demand for the new type of specialists with certain competencies and collaborating between disciplines. This affects the selection process but not the results afterwards[313]. According to the OECD, by 2050 almost 70% of the world's population will be living in the cities[314]. Environmental problems related to the cities need to be considered by both public and private sector. Policymakers and urban stakeholders need to invent a new urban development pattern. The most significant challenge is the appropriate supply of housing and minimizing ecological impact. Ecological concerns were gradually included in the urban policies. As stated in the European Commission report, "there is an increasing awareness of the fact that sustainability goals can be promoted by including environmental considerations

309 *Kooperatywy Spożywcze Warszawa*, www.jemylokalnie.pl/kooperatywy-spozywcze-warszawa, 14.06.16.

310 *Jedzenie (rośnie) na mieście*, Wyborcza.pl/magazyn/1,127926,15859659,Jedzenie_rosnie_na_miescie.html, 14.06.15.

311 *Rub & Stub*, www.spisrubbogstub.dk/concept, 14.06.15.

312 *Rub & Stub*, www.spisrubbogstub.dk/concept, 14.06.15.

313 A. Legera et al., *Public tendering and green procurement as potential drivers for sustainable urban development: Implications for landscape architecture and other urban design professions*, "Landscape and Urban Planning" 116, 2013, 13-24, p.13.

314 *OECD. OECD environmental outlook to 2050: The consequences of inaction*, Organisation for Economic Co-operation and Development Publishing, 2012, 14.06.14.

in the daily activities of government"[315]. Procurement became a political and corporate tool which helps to increase environmental performance of the goods[316]. Green public procurement criteria were launched by the European Commission to enable realizing these aims. Local authorities are encouraged to use them. At the same time designers draw inspiration from green public procurement to create sustainable building environment[317].

7.3.2. Learning sustainable professions

The abundance of work opportunities in the green sector brings us to the preparation for employment. In the 1990s universities started responding to the growing demand for experts in this field.

In planning, when modernistic trends became criticized for being unable to cope with the social and spacial relations, sustainable development appeared in the spatial planning[318]. It requires alternative look at both theoretical and practical aspects of the profession[319]. First the idea of contradictions between planers objective and economic, social and environmental objectives were addressed by Campbell in 1996[320]. Some researchers followed calling for more appropriate attitude (e.g. Cliff Hague) while the others highlighted vagueness of the concept (Tate and Mulugetta, Cherni, Rammel). Now the concept and its rationale is widely accepted in the profession and implemented in the urban structures[321]. Qualitative descriptions were accepted and some evaluation tools have been constructed to evaluate urban metabolism, with the focus on the soft aspects such as culture or consumer behavior[322]. Sustainable development

315 A. Renda, Pelkmans, J., Egenhofer, C., Schrefler, L., Luchetta, G., Selc¸ uki, C., et al. *The uptake of green public procurement in the EU27*. Brussels: European Commission, Directorate-General Environment, 2012, http://ec.europa.eu/environment/gpp/pdf/CEPS-CoE-GPP%20MAIN%20REPORT.pdf, 14.06.10.

316 European Commission. *Buying green! A handbook on environmental public procurement*. Luxembourg: Office for Official Publications of the European Communities, 2004.

317 J. Sporrong, J. Bröchner, *Public Procurement Incentives for Sustainable Design Services: Swedish experiences*, Architectural Engineering and Design Management, 5, 2009, pp. 24-35.

318 E. Dimitrova, *The 'sustainable development' concept in urban planning education: lessons learned on a Bulgarian path*, "Journal of Cleaner Production" 62, 2014, pp.120-127.

319 See: M., Gunder, *Planning as the ideology of (neoliberal) space*, "Planning Theory", 9 (4), 2010, http://plt.sagepub.com/content/9/4/298, pp. 298-314.

320 S. Campbell, *Green cities, growing cities, just cities? urban planning and the contradictions of sustainable development*, "Journal of the American Planning Association" Summer, American Planning Association, Chicago, IL, 62 (3), 1996, pp. 296-312.

321 P. Healey, *Search of the 'Strategic' in spatial strategy making*, "Planning Theory & Practice", 2009, 10 (4), pp. 439-457.

322 P.G. Lindblom, Weber, R., Reardon, M., Schmitt, P., *Planning for resource efficient cities. Application of the metabolic impact assessment tool in Stockholm and Newcastle*. Nordregio ElectronicWorking, 2011, Paper 8. http://www.nordregio.se/, Publications/Publications-2011/Planning-for-resource-efficient-cities/.

concept has been also included in the education on spatial planning as ¾ of the spatial schools have included it in the curriculum[323].

For example, economics universities prepare dedicated programs and include sustainability into their curricula. Nowadays, in most higher education entities in the world, you can find subjects related to this concept. The best ranked master's programs as for 2012/2013 are as follows[324]:

1. Stanford University – MS Environment & Resources/MBA
2. Cornell University – MBA Sustainable Global Enterprise
3. Cranfield University – MSc Environmental Management for Business
4. University of Pennsylvania – Wharton School – MBA Environmental and Risk Management
5. UniversitaBocconi – Master in Green Management, Energy and Corporate Social Responsibility (MaGER)

Examples outside Europe or the US include University of Cape Town, Uniandes School of Management in Bogota which also offer sustainability oriented courses[325].

Growing interest in the academia resulted in numerous articles devoted to sustainable urban initiatives. K. McCormick et al. have assessed 20 of them based on 35 cases and 130 surveyed examples[326]. The cities are dominant in Europe, but there are also examples from other continents. Especially, governance and planning is highlighted as playing important role to reach urban sustainability. Some examples of the cities with interesting initiatives include[327]:

- *Europe*: Stockholm, Gothenburg, Kalmar, Malmo; London, Aberdeen, Woking, Birmingham, Manchester; Amsterdam, Hoofddorp, Culemborg, Rotterdam; Gert, Kortrijk; Montreuil; Ludwigsburg; Basel; Egedal.
- *North America*: New York, San Francisco, Utica (USA)
- *South America*: Lima, Bogota, Quito, Curitiba
- *Africa*: Cape Town
- *Asia*: Hong Kong, Rajkot, Coimbatore,
- *Oceania*: Melbourne, Adelaide.

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323 UN-HABITAT, *Planning Sustainable Cities: Policy Directions, Global Report on Human Settlements 2009*, Abridged ed. Earthscan. 2009, http://www.unhabitat.org/grhs/2009. AESOP, 2006.

324 *Best Masters Ranking in Sustainable Development and Environmental Management*, http://www.best-masters.com/archives/2013/sustainable-development-and-environmental-management.pdf?token=638142d39207f4663bcd, 14.06.15.

325 *Ibidem*.

326 K. McCormick et al., *op. cit.* pp. 1-11.

327 *Ibidem*, p. 2.

Summary

In this chapter, the idea of sustainable urban development and green professions were analysed. First, it elaborates on the understanding of the first term. Then it introduces frameworks, rankings, grading systems and approaches. Later it presents the sectorial approach towards sustainable solutions in chosen cities. Second part of the chapter presents sustainable professions. By giving examples of entre- and intrapreneurship it shows available options and innovative solutions. It concludes with inclusion of sustainable development in education.

Bibliography

2014 Webinar Series: Impact Investing Careers, http://www.mtmc.co/impact-investing-careers/, 14.06.15.

A lively and liveable Singapore: Strategies for Sustainable Growth, Ministry of the Environment and Water Resources and Ministry of National Development, Singapore 2009.

Asian Development Bank, *Urban innovations and best practices, sustainable urban development in The People's Republic of China: Eco-city development – a new and sustainable way forward?,* http://www.adb.org/publications/eco-city-development-new-and-sustainable-way-forward, 2010, 14.05.13

Bakar A., K. SooCheen, *A Framework for Assessing the Sustainable Urban Development*, Procedia – Social and Behavioral Sciences, 85, 2013.

Best Masters Ranking in Sustainable Development and Environmental Management, http://www.best-masters.com/archives/2013/sustainable-development-and-environmental--management.pdf?token=638142d39207f4663bcd, 14.06.15.

Camagni R., *Sustainable urban development: definition and reasons for a research programme*, "International Journal of Environment and Pollution", 1998, 10 (1).

China low-carbon eco-city development report, China Building Industry Press, Chinese Society for Urban Studies, 2011.

Copenhagen: Solutions for sustainable cities, January 2014, 3rd edition, City of Copenhagen, City Hall.

Gibson R.B., *Sustainability assessment: Basic components of a practical approach*, "Impact Assessment and Project Appraisal", 24(3), 2006.

Going Green. How cities are leading the next economy, P. Rode, G. Floater, LSE Library Services, London, 2013.

Hald, M., *Sustainable urban development and the Chinese eco-city: Concepts, strategies, policies and assessments*, http://dspace.cigilibrary.org/jspui/handle/123456789/27460, 2010, 14.05.13.

Liu H. et al., *Analysis of sustainable urban development approaches in China*, "Habitat International", 41, 2014, 24-32.

Luederitz C. et al., *A systematic review of guiding principles for sustainable urban neighbourhood development*, "Landscape and Urban Planning", 118, 2013.

McCormick K., et al., *Advancing sustainable urban transformation*, "Journal of Cleaner Production", 50, 2013.

Ministry of Environmental Protection, *The introduction of national environmental protection model city (in Chinese)*, http://wfs.mep.gov.cn/mfcs/index.htm, 2009, 14.06.05.

MOHURD, *The national standards for developing national garden city (in Chinese),* http://www.mohurd.gov.cn/zcfg/jsbwj_0/jsbwjcsjs/200611/t20061101_156922.html, 2000, 14.06.01.

Old Church Converted into a Modern Bookstore, http://www.mymodernmet.com/profiles/blogs/merkx-girod-selexyz-dominicanen-maastricht-bookstore-church, March 16, 2012, 2014.06.15.

Our Common Future, UN WCED, 1987.

Pęski W., *Zarządzanie zrównoważonym rozwojem miast*, Arkady, Warszawa, 1999.

Ross J., *What I Picked Up About Trash in Taipei*, http://www.washingtonpost.com/wp-dyn/content/article/2007/11/29/AR2007112901887.html, December 2, 2007, 15.06.2014.

Rub & Stub, www.spisrubbogstub.dk/concept, 14.06.15.

Singapore's Water Cycle Wizardry, http://spectrum.ieee.org/energy/environment/singapores-water-cycle-wizardry, 14.06.10.

Sino-Singapore Tianjin Eco-City (SSTEC): A case study of an emerging eco-city in China, Washington D.C., World Bank, 2009.

SooCheen S.K., and Abu Bakar, A.H., *Incorporating sustainable management system into housing development practice in Malaysia'*, Int. J. Sustainable Development, 2012, 15(3).

UN-HABITAT, *Planning Sustainable Cities: Policy Directions, Global Report on Human Settlements 2009*, Abridged ed. Earthscan. 2009, http://www.unhabitat.org/grhs/2009. AESOP, 2006.

Yalcin G., *Urban activities in the view of the sustainable development*, "Procedia Technology" 12, 2014.

Zhang K., Z. Wen, *Review and challenges of policies of environmental protection and sustainable development in China*, "Journal of Environmental Management", 88(4), 2008.

New Models of Urban Entrepreneurship

CASE STUDIES

City study 1

Sustainable Singapore

Singapore is a city that undertakes a number of solutions to stay sustainable and protect the natural environment.

One of them is water treatment called Toilet-To-Tap Water. As the city is not self-sustainable as it comes to water supply, it has signed appropriate agreements with Malaysia to solve this issue. The first agreement finished in 2011 and the second expires in 2061. Singapore aims to be self-sufficient by this time.

The waste water does not go directly to the sea, but is collected by the water utility and cleaned to the level that enables its reuse. This closed water circuited system helps in reducing island water supply shortage.

The cleaning process requires special treatment and a certain amount of electricity which makes it more expensive than providing water from nearby lakes or rivers. With Singapore not having accessible water reservoirs, the recycling system turned out to work for its citizens[328].

The Singapore Water Reclamation Study (NEWater Study) was launched in 1998 as a joint program between PUB and the Ministry of the Environment and Water Resources (MEWR). Its parameters often are better than other tap water[329]. At present, 1/10 of drinking water supply is NEWater.

The city has a website for sustainable solutions in Singapore. It pictures solutions for individuals, companies and the government as well as Strategy to reach by 2030. A report was prepared for the city available and is on the website "A lively and livable Singapore: Strategies for sustainable development". The vision of the city is "to make Singapore a livable and lively city state, one that Singaporeans love and are proud to come home". Three key topics to focus on

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328 *Singapore's Water Cycle Wizardry*, http://spectrum.ieee.org/energy/environment/singapores-water-cycle-wizardry, 14.06.10.

329 *Overview*, http://www.pub.gov.sg/water/newater/, 14.06.15.

are boosting resource efficiency, enhancing urban environment, building new capabilities and testing new technologies, and fostering community action. From the image of a garden city to business-focused and investor-friendly, yet clean and green capital the report shows challenges, goals and actions taken[330].

Exhibit 1. Sustainable Singapore

Source: photo taken by K. Negacz.

The Singapore Green Building Council

Since 2009, the city is also home to the Singapore Green Building Council (SGBC) which is a non-profit organization which has begun private-public partnership to create an example for the top sustainable building environment in the city. Its aim is to support green building design, good practices and technologies in the construction industry.

[330] *A lively and livable Singapore: Strategies for Sustainable Growth*, Ministry of the Environment and Water Resources and Ministry of National Development, Singapore 2009.

Its focus areas are[331]:

- profiling Singapore as a leading sustainable hub in the tropics through public education and industry promotion;
- providing a dedicated certification body for green building-related products and services;
- creating international collaboration, and expanding global outreach;
- enhancing professionalism and knowledge in sustainable development via knowledge creation and industry research;
- inspiring membership.

One of the projects includes a certification system for products and services. Gardens by the Bay are probably the most recognizable green city project in Singapore.

The Gardens span 101 hectares hosting over 380 thousand plants and are located a five-minute walk from the city. They include three spaces–Bay South, Bay East and Bay Central. There is a waterfront promenade with an amazing view of the Marina Bay financial district.

"Gardens by the Bay bring to life NParks' vision of creating a City in a Garden. The Gardens capture the essence of Singapore as the premier tropical Garden City with the perfect environment in which to live and work – making Singapore a leading global city of the 21st century.

In January 2006, an international master plan design competition was launched to seek world-class design ideas for Gardens by the Bay. It drew more than 70 entries submitted by 170 firms, from over 24 countries, including 35 from Singapore.

An 11-member Jury comprising local and international experts shortlisted eight teams and two winners were announced in September 2006; namely Grant Associates for Bay South and Gustafson Porter for Bay East, both from the UK. A decision was made to develop Bay Central later.

A public exhibition of the master plan concepts and models of the winning teams was held in September 2006 at the Singapore Botanic Gardens. Over 10,000 people visited the exhibition and over 700 gave their feedback. An overwhelming majority 85% of those surveyed liked the features in the master plans and over 97% said they would visit the gardens"[332].

[331] *Introduction*, http://www.sgbc.sg/about-us/about-sgbc/introduction/, 14.06.20.

[332] ***History***, https://www.gardensbythebay.com.sg/en/the-gardens/about-the-gardens.html#!/history, 14.06.15.

Singapore Sports Hub

Another idea to keep the nation healthy and include sustainability solutions into apparently unrelated programs and projects is the Singapore Sports Hub. It was established as a 25-year Public-Private Partnership (PPP) agreement between Sport Singapore and SportsHub Pte Ltd, which is one of the largest sporting infrastructure PPP projects in the world. From June 2014 it serves as a place to play, watch and support various types of sport and entertainment for Singaporeans and visitors. It has prepared facilities both for professionals and amateurs to train or just spend some leisure. Accompanied by the museum, library and mall, it offers a whole range of facilities[333].

The stadium was designed to be carbon neutral and was built with energy-efficient cooling technology (the seats are being cooled by the air pumped from underneath). The additional energy is acquired from solar panels thanks to which it has no negative impact on the environment[334].

There are more sustainability related elements in the construction. As Tien Chung Ping, Tay Chern Hui, Chng Choon Hiong and Bryandt Lyn wrote:

"Sustainability has been central to the design of the Sports Hub from the start. The insulation in the roof cladding and giant louvres, for example, minimise the heat from the sun.

The project was awarded the Green Mark Gold Plus for its sustainable design of the stadium and Sports Hub precinct.

The hub is also home to a 6,000-capacity indoor aquatic centre, a 3,000-capacity multi-purpose indoor arena and a water sports centre featuring dragon boating, kayaking and canoeing in the Kallang Basin. There is also a 41,000 sq m retail and waterfront area as well as a sports museum and sports library.

All these are just minutes' walk from two MRT stations – Kallang and Stadium"[335].

[333] *The project*, http://www.sportshub.com.sg/aboutus/Pages/sports-hub-project.aspx, 14.06.30.

[334] *Under one roof: Take a sneak peek at the Singapore Sports Hub*, http://www.straitstimes.com/breaking-news/singapore/story/sports-hub-graphic-20140227, 14.06.30.

[335] *Ibidem*.

Exhibit 2. Meeting area in the city's park

Source: photo taken by K. Negacz.

Tree House – vertical gardens

Having very limited space, Singapore is a city where design and spacial planning includes place constraints. The city is home to one of the world largest vertical gardens located at a 24-storey green belt at Tree House condominium in Bukit Timah.

"Occupying a surface area of 2,289 sq m, the garden is expected to achieve more than $500,000 in energy and water savings a year. Its features include heat-reducing windows and motion sensors at staircases that activate lights automatically.

The vertical garden built by the property firm City Developments Limited (CDL) can also reduce the estate's carbon footprint by filtering pollutants and

carbon dioxide out of the air. This reduces heat absorption and lowers the energy needed to cool indoor spaces.

Mr Kwek Leng Joo, a CDL deputy chairman, said: With the eco-inspired Tree House, CDL has not only created a place where residents are proud to call home, but more importantly, a green icon which places Singapore on the world map[336]."

Questions to answer:

1. Gardens by the Bay were a large investment. Does it bring benefits to the city? Prepare a SWOT analysis for the project.
2. Basing on the information from the internet resources, compare the cost of Gardens by the Bay with other landmarks in other cities. What conclusions do you draw from the comparison?
3. NEWater will help to make Singapore self-sufficient with regard to water by 2061. What other eco-friendly solutions are used in other cities around the world? Are they more or less cost effective?
4. Consider similar initiatives as the Singapore Sports Hub. Take the National Stadium as a case and think which solutions implemented in the Hub can be implemented in Polish stadium?
5. Look at other world largest vertical gardens. Choose one and calculate how much profit the owning company makes thanks to the project.

Bibliography

A lively and livable Singapore: Strategies for Sustainable Growth, Ministry of the Environment and Water Resources and Ministry of National Development, Singapore 2009.

History, https://www.gardensbythebay.com.sg/en/the-gardens/about-the-gardens.html#!/history, 14.06.15.

Introduction, http://www.sgbc.sg/about-us/about-sgbc/introduction/, 14.06.20.

Overview, http://www.pub.gov.sg/water/newater/, 14.06.15.

Singapore's Water Cycle Wizardry, http://spectrum.ieee.org/energy/environment/singapores-water-cycle-wizardry, 14.06.10.

The project, http://www.sportshub.com.sg/aboutus/Pages/sports-hub-project.aspx, 14.06.30.

Under one roof: Take a sneak peek at the Singapore Sports Hub, http://www.straitstimes.com/breaking-news/singapore/story/sports-hub-graphic-20140227, 14.06.30.

[336] *The world's largest vertical garden? It's right here in Singapore*, http://www.straitstimes.com/news/singapore/environment/story/the-worlds-largest-vertical-garden-its-right-here-singapore-2014061, 14.06.30.

Case Study 2

Ecomuseums – chance for highlighting towns

Mix of culture, fun and adventure

Ecomuseums are a form of social entrepreneurship and sustainable tourism, where individuals from a certain region start a financially sustainable organization to serve a social cause in their local community[337]. The concept of ecomuseums began in the 1960s in France, stemming from the need to preserve local heritage. Now it is a popular way to link active sightseeing with getting to know local inhabitants and culture. An open-air museum connects local artists, craftsmen and entrepreneurs who promote the beauty of the region in an interactive way and form of dialogue with visitors. It organizes numerous sport and cultural events related to traditional activities of the local community, such as bread making, folk music festivals and winter sports competitions and actively supports business in the region by fairs, workshops with their products and promotion in media which small companies would never afford.

In Spain, there is a number of ecomuseums which help to attract tourists to smaller towns. One of them is Cap de Cavalleria Ecomuseum, located near towns of Es Mercadal and Fornells in Menorca. This part of the island is less developed, rocky and unexplored.

Ecomuseum in Cap de Cavallería

Located in the north of Menorca, Ecomuseum in Cap de Cavalleria is an outlook on the island's culture and history. Being close to the beach of Cavalleria, it attracts visitors who do not only want to spent they stay sun-bathing but also

[337] Heritage and Ecomuseums, http://www.greenways.by/index.php?content&id=18&lang=en, 14.06.15.

learn about the place and its history. Having become an institution in the Menorca, it includes the Santa Teresa house exhibition which information on cultural heritage and natural resources of the island. Ecomuseum offers general information on the places it includes in various ways: audiovisual systems, scale models, scenarios and exhibitions of the archeological materials of the excavations in the Sanitja port.

One of the most important elements of Menorca history depicted in the ecomuseum is talayotic culture which took place before the roman conquest. The exposition "A world to discover" serves as an introduction to it. This path can be continued via the "School of Archeology" which operates in the ecomuseum. The program is organized every summer and includes theoretical and practical information on the archeology. One of its findings is an area of the Roman camp (123a.C. – 50a.C.) which include warehouses and houses for soldiers. The courses are in Spanish and English which enable foreigners to join. As many as 1768 students have participated in the school since 1996. Some highlights include underwater archeology and advanced osteological analysis.[338]

Ebre Delta National Park Eco-Museum

Another interesting example is the ecomuseum in Deltebre located near Tarragona in Catalonia, Spain. With Barcelona in the region, it may be a certain challenge to attract visitors to smaller cities and town whereas often they have much to offer.

This ecomuseum gives an introduction into cultural and natural history of the Delta of Ebre river. If offers a journey through various natural surroundings: the river, lagoons, rice fields and the riverside forest. It shows the role of the river in human activity in the area. It gives information on fishing, river navigation, the construction of dams and canals and rice crops. There is also an aquarium with the different species of the most typical fish and amphibians from the Ebre Delta[339].

[338] Ecomuseum in Cap de Cavallería, http://www.gfornells.com/en/ecomuseo.html, 14.06.15. The Sanisera International Field School, http://www.ecomuseodecavalleria.com/the-sanisera-field-school-courses.asp, 14.06.15.

[339] Ebre *Delta National Park Eco-Museum*, http://www.terresdelebre.travel/ing/DescobreixNos/TurismeOrnitologic/recurso.php?id=885#.U6AYvihR93s, 14.06.10.

Exhibit 1. Typical landscape in Deltebre

Source: photo taken by K. Negacz.

Questions to answer:

1. Read the case of Cap de Cavalleria Ecomuseum in Menorca. Which solution is more beneficial for the region: developing ecomuseum or constructing hotels and more tourism infrastructure in the proximity? Consider both tangible and non-tangible advantages of the solutions.
2. Many ecomuseums face marketing problems. How would you design a promotion strategy for an ecomuseum and let people know about its existence?
3. Is there an ecomuseum in the town near to where you live or study? How the town benefit from ecomuseum existence? What kind of partnerships does it pursue? Which local businesses are connected to it?
4. Prepare a short business plan for ecomuseum in chosen town.

Bibliography

Ebre Delta National Park Eco-Museum, http://www.terresdelebre.travel/ing/DescobreixNos/TurismeOrnitologic/recurso.php?id=885#.U6AYvihR93s, 14.06.10.

Ecomuseum in Cap de Cavallería, http://www.gfornells.com/en/ecomuseo.html, 14.06.15.

The Sanisera International Field School, http://www.ecomuseodecavalleria.com/the-sanisera-field-school-courses.asp, 14.06.15.

Heritage and Ecomuseums, http://www.greenways.by/index.php?content&id=18&lang=en, 14.06.15.

Case Study 3

MANCHESTER – from municipal socialism to new entrepreneurial model of development

"What we can't do is to develop integrated industrial policies, based upon indicative planning and sectoral interventions aimed at changing the underlying structure and balance of the economic base – with the support of a strongly interventionist national state. What can be done is limited to supply-side, infrastructural initiatives, place-marketing and more or less overt competition with cities deemed to be adjacent or of comparable ranking in a putative league of European cities. These are the parameters within which the NEMD (New Entrepreneurial Model of Development) has been developed."
(Quilley 2000, p. 608)

Prior to regeneration process, Manchester was home to most common urban challenges and urban development externalities of especially post-industrial cities: high unemployment, very low levels of educational qualifications, industrial decline, racial discrimination, very poor quality housing and large numbers of especially disadvantaged residents, particularly lone parents. After a period of experiment with municipal socialism ended with very little result, a new approach of "managerial prerogative" was introduced. This shift in urban policy can be summed up in a change of slogan from: "Defending Jobs, Improving Services" to "Making in Happen" (Quilley 2000, p. 607).

New turn in urban development of Manchester was based on cooperation between local political and business elites and the achievement of a limited number of very concrete goals in the form of flagship projects (Millennium Stadium or Bridgewater Concert Hall). The Municipality therefore used the supply-side instruments to attract inward investment and grant-aid. Means varied from: re-imaging Manchester as a major European city, introducing residents to the city centre and financing urban regeneration programs.

New approach of urban entrepreneurism was accompanied by new understanding of partnership, which included also local authorities which previously acted indifferent or even hostile towards each other. Examples of this spirit of partnership can be found in the successive bids for the Olympic and Commonwealth games, as well as the City Pride initiative.

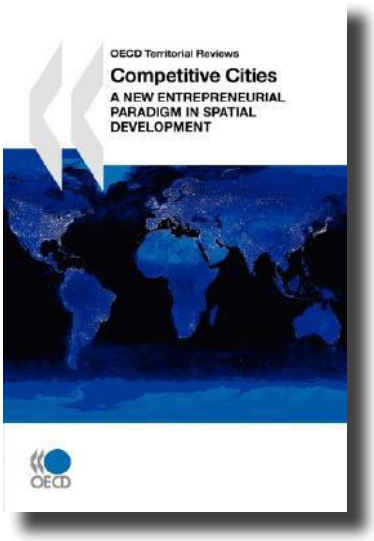
Shift from "municipal socialism" to "entrepreneurial city" which Manchester underwent can be summed up in the following manner:

	Municipal Socialism	Entrepreneurial City
Relationship between politics and economics	• Economics subordinated to the politics of resistance.	• Socialist political project subordinated to the economics of selling Manchester in the national/European economies and securing discretionary funding.
Political project	• Politics of radical alliance – expressed through a commitment of Equal Opportunities (women, ethnic minorities, lesbians and gay men etc.). • Partnership as 'class-based political alliance' organized in opposition to both the private sector and the national government.	• Reorientation towards the political centre – local version of New Realism – appeal to middle classes on the basis of economic competence and getting things done ('*Making it Happen*'):cultural agenda of 'city living', emphasis on service sector, Olympic bid, flagship project, city centre housing projects for professional classes etc. • Partnership as a cross-class growth coalition rooted in a strong chauvinist city identity. • Acceptance of central role for the private sector.
Understanding of and responses to economic crisis	• Emphasis on local strategies as exemplars for future Labour government. • Local strategies formally oriented towards developing a more self-sufficient economic base BUT substantively directed towards ameliorating the social crisis and its impact on the most disadvantaged groups. • Acknowledgement of global/external forces beyond the control of local policy BUT downplayed by political emphasis on the culpability of Thatcherism.	• Emphasis on local agency and economic self-determination. • Partnership as a 'growth-coalition' and a spur to endogenous economic development. • City-region competing in a European/global system for investment (and discretionary funding).
Orientation to urban policy	• Emphasis on social aims and community development. Urban policy as an extension of the welfare state, dealing with the symptoms of economic crisis. • Political agenda for democratization and bringing excluded groups into the political process. Part of wider struggle against the Tory government.	• Urban renewal seen primarily as a vehicle to relocate the city higher up a putative European urban hierarchy: emphasis on property-led regeneration, flagship developments, the centrality of place marketing etc. • Elitist orientation to 'key player' politics (legitimacy of conflicting claims assessed according to the relative status of key players).
Orientation to manufacturing	• Strong rhetorical commitment to the manufacturing base and the need for (neo-Fordist) reorganization and modernization. Practice limited to monitoring decline.	• Commitment to a 'postindustrial script' and willingness to abandon manufacturing as the necessary foundation for the regional economy.
Style of decision-making	• Orientation towards process. Participative, strong emphasis on democratization, decentralization and consultation. Rhetoric of community based policies and 'bottom-up' policies.	• Orientation to end results and getting things done. Executive driven, greatly increased political authority at the centre. 'Charismatic' authority. New corporate slogan: '*Making it Happen*' replaces '*Defending Jobs and Improving Services*'.
Relation to other cities and communities	• Commitment to principle of solidarity between cities and communities.	• Acceptance of institutionalized competition between cities (e.g. for discretionary funding in the case of City Pride) and the inevitability of losers as well as winners.

Source: Quinney, S. (2000) *Manchester first: from municipal socialism to the entrepreneurial city*, International Journal of Urban and Regional Research, vol. 24(3), p. 613.

Case Study 4

ENTREPENEURIAL CITY – new paradigm of urban development by OECD



The entrepreneurial city paradigm, promoted by the OECD can be most briefly summed up as a shift from city managerialism, which is primarily concerned with effective provision of social welfare services to citizens, to entrepreneurialism, which is strongly characterized by proeconomic-growth strategic approaches, risk-taking, innovation and an orientation toward the private-sector. The shift has been caused by the observation that providing additional services and transfers to groups of population with special needs is not curing the root-cause of the inner-city problems, i.e. the lack of economic infrastructure there. Therefore, actions were taken to regenerate decayed areas with means of economic activity.

The underlying assumption of the "entrepreneurial city" paradigm is that with the irreversible trend of global economic integration, the only way that

cities can secure competitive advantages over their perceived competitors in an ever intensifying inter-city competition is by pursuing entrepreneurial strategies.

Features of "entrepreneurial city" paradigm include [OECD (2007) Competitive Cities: a New Entrepreneurial Paradigm in Spatial Development, p. 2, http://www.oecd.org/fr/gouvernance/politique-regionale/competitivecitiesanewentrepreneurialparadigminspatialdevelopment.htm, accessed 9.04.2014]:

- it ultimately aims at fostering and encouraging **local economic development**. Hence, it is intrinsically initiatory and pro-economic growth, trying to **initiate economic growth** rather than control and manage it. In the context of spatial development policy, it takes the form of "positive planning", which tries to create economic growth by pro-active means, as compared to the traditional "passive planning", which is more concerned with the management of landuse.
- while the previous approaches were basically led by the public sector, the new approaches are becoming increasingly **market-driven**, aiming at making full use of market mechanisms to achieve public goals with less public intervention.
- urban entrepreneurialism involves fundamental change in the attitudes towards, and relationship with the private sector, being both **proprivate-sector** and willing to collaborate with it. **Strategic alliances** were formed between the public and private sectors, and public-private partnership provides the essential institutional framework for cities to compete in the global market by combining private resources and expertise with local governmental powers.
- policy planning in the new approaches shows strong characteristics once distinctive to private businesses, such as risk**-taking, inventiveness, promotional and profit motivation**. Many methods employed by policy planners originated in the private sector. Above all, strategic planning forms the backbone of the new approaches, as a means to plan effectively for and manage the future at a time when the future itself appears increasingly uncertain.

Case study 5

BARCELONA – cooperation of public and private stakeholders at Barcelona 22@ Innovation District

Barcelona 22@ Innovation District is part of the city created in 2000 with a goal of transforming the old industrial area of Poblenou, with obsolete factories into a magnet for new activities. The new disctrict of 22@ substituted the traditional industrial localization for business activity of district 22a. New innovative industry area covers the whole south-eastern quadrant of the city, from Gran Via to the beltway and from the Olympic Village to Rambla de Prim, which is the equivalent of 115 blocks in the Eixample.

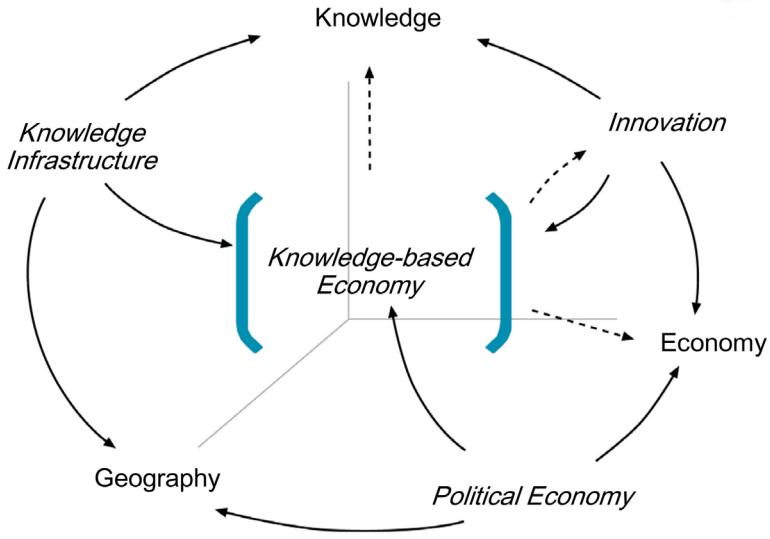
While each of the industry clusters are segregated into distinct areas containing residential areas and amenities, they are unified by centralized heating and air-conditioning, electricity distribution, waste disposal, telecommunications infrastructure, and smart traffic management systems (Leon, 238).

Exhibit 1. Layout of the Barcelona 22@ Innovative District

Source: ????

Creation of Barcelona 22@ Innovation District was built on the concept of knowledge-based economy (Figure C1). According to presented approach, such an economy is dependent on knowledge infrastructure and innovation, while also giving back to the innovative industries by the results of its production. Substantial determinant of knowledge-based economy is also political decision-making, giving impetus or creating conditions for knowledge development, as it was in case of 22@ district, while changing the original plan of 22A heavy industry district to advanced technology and urban regeneration strategy implemented in 22@. As an effect of such a mix of conditions, an economy is capable of producing innovative products and services and knowledge.

Figure C1. Knowledge-based economy scheme



Source: 22@Barcelona, presentation by Ajuntament de Barcelona, http://www.22barcelona.com/documentacio/22bcn_1T2010_eng.pdf (accessed 12.05.2014).

Other theoretical basis for Barcelona 22@ Innovation District was laid by the triple helix concept. The triple helix thesis is that the potential for innovation and economic development in a knowledge society lies in a prominent role for the university and in the blend of elements from university, industry and government to generate institutional and social innovation for the production, transfer and application of knowledge (The Triple Helix Research Group, http://triplehelix.stanford.edu/3helix_concept). Hence, the presence of universities at the district.

Exhibit 2. Universitat Pompeu Fabra at 22@ district as an example of both triple-helix approach and physical regeneration project (from industrial to modern architecture)

Source: own materials.

The 22@ district is founded on the recognition that international and local human capital existing in the same city is not sufficient for economic growth. Research shows that in order for a city to actually benefit from the highly educated and well trained members of a community, it must "pro-actively engage both local and new international communities" (Leon, 237). Before the creation of the 22@District, Barcelona's international community lacked a certain level of engagement with the city. Though many individuals and firms from around the world were located in Barcelona, few were truly integrated into Barcelona's society and professional realm. Thus the district has sought to overcome the challenges presented from the tradition of international firms and businesspersons using Barcelona as merely a "stopping point" on their path to advancement. To maximize the potential of knowledge sharing, the 22@ District created means for the overflow of knowledge to be captured. (Case-Study: Barcelona 22@ Innovative District, Sustainable Cities Collective, http://sustainablecitiescollective.com/ecpa-urban-planning/27601/case-study-22-barcelona-innovation-district).

The district is benefiting not only from proximity of businesses from similar or linked industries but also from the proximity of the city center. All five knowledge intensive clusters (Information and Computer Technology (ICT), Media, Bio-Medical, Energy, and Design) are located close to each other but also

close to central districts of Barcelona, giving further possibilities of cooperation but also providing well-educated often international stuff life-style that suites their requirements.

The new urban setting is based on legal solutions which allow more construction, more public spaces or green areas and subsidized housing as long as the previous industrial activity is replaced by offices or other business services and equipment related to new technology and knowledge. The goal is to encourage land owners to update obsolete urban planning elements from the end of the 19th and beginning of the 20th centuries while maintaining economic activity, which would not have happened with a traditional rezoning from industrial to residential designation. (http://www.22barcelona.com/content/blogcategory/50/281/)

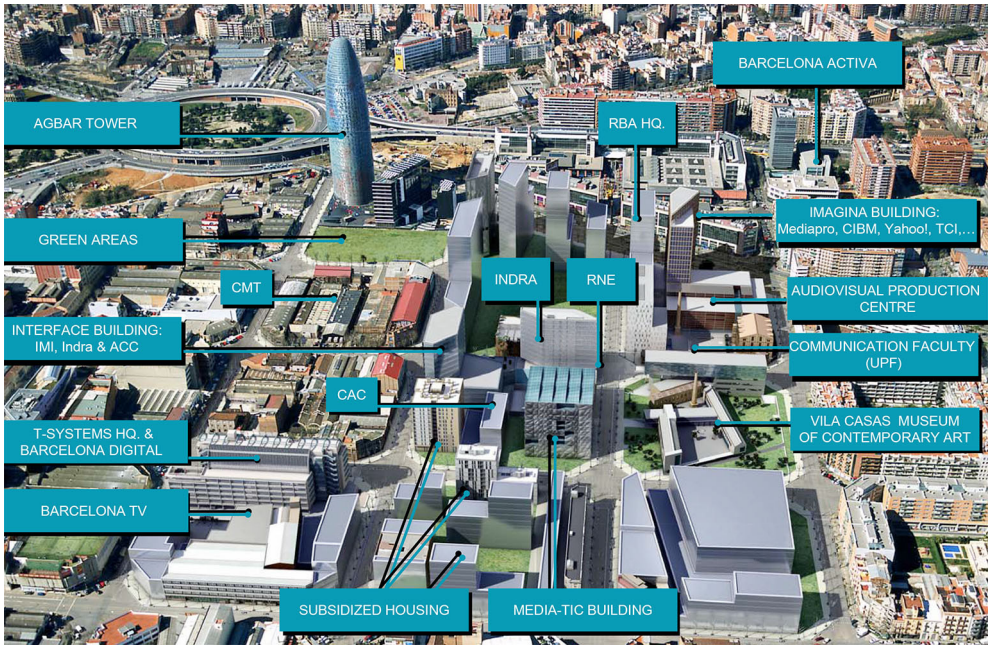
22@Barcelona is a community consisting of:

- the most innovative companies,
- research, training and tech transfer centers,
- housing (4,000 new subsidized residences),
- facilities (145,000 m^2 of land),
- green areas (114,000 m^2).

Plans aimed to create 4,000,000 m^2 of office, commercial, and research spaces and bring new life to 35 km of streets. Within this, 220,000 m^2 was dedicated for new public facilities and green spaces as well as residential development including social housing. The project intended to keep 4,614 dwellings in the area and create 4,000 new state-subsidized housing units (Case-Study: Barcelona 22@ Innovative District, Sustainable Cities Collective, http://sustainablecitiescollective.com/ecpa-urban-planning/27601/case-study-22-barcelona-innovation-district).

22@ district was set up by public authorities, based on the decision of transforming a rather decayed urban areas by creating productive environment for innovative activity. The district is run by a municipal company, with a goal of fostering innovation and testing advanced urban solutions, also with the use of public sector means. The choice of companies settled in 22@ is not a coincidence – it was the Municipality's decision to concentrate on innovative, knowledge and research industries. Municipality also provides companies settled in 22@ with services such as: information and advice on infrastructure, technology evaluation program, publicity, access to public financing, and other. Therefore, by means of urban policy at local level, the district developed into a knowledge cluster, avoiding the risk of attracting traditional business and losing the momentum.

Figure C2. Chosen companies and institutions at Barcelona 22@ Innovation District.



Source: http://camins2014.cat/?p=351

Apart from creating space for knowledge-intensive activities, providing public spaces to correspond with business endeavours and completing the project with dwellings, Barcelona Municipality invited internationally recognized architects to create the District's landmarks. In effect, series of monumental buildings were built along newly renovated boulevard, Avinguda Diagonal. The most impressive and recognized is the sustainable building of Torre Agbar (Agbar Tower) by French architect Jean Nouvel ("Agbar" coming from the words "Agua" and "Barcelona", according to its designers corresponding to the shape of Montserrat hills and geysers). Torre Agbar marks the entrance to Barcelona 22@ Innovation District.

Another building designed as an element of Barcelona 22@ Innovative District is Edificio Forum (Forum Building) which connect the Diagonal Avenue with the coastline line. The building was created by Swiss architects Jacques Herzog and Pierre de Meuron for the 2004 Universal Forum of Cultures. Even though the Forum itself did not prove to be as successful in jump starting new wave of urban regeneration as other international events in Barcelona were (e.g. International Exhibition in 1929 and the Olympics in 1992), yet the building is an interesting example of sustainable architecture. Triangular in shape, using

natural methods of cooling and heating (e.g. roof pool), Forum is a fully sustainable building with features characteristic for Barcelona style (i.a. multi-dimensional, sustainability, differentiated materials, different shapes from different angles).

Exhibit 3. Torre Agbar – gateway to Barcelona 22@ Innovation District

Source: http://camins2014.cat/?p=351

Exhibit 4. Forum Edificio

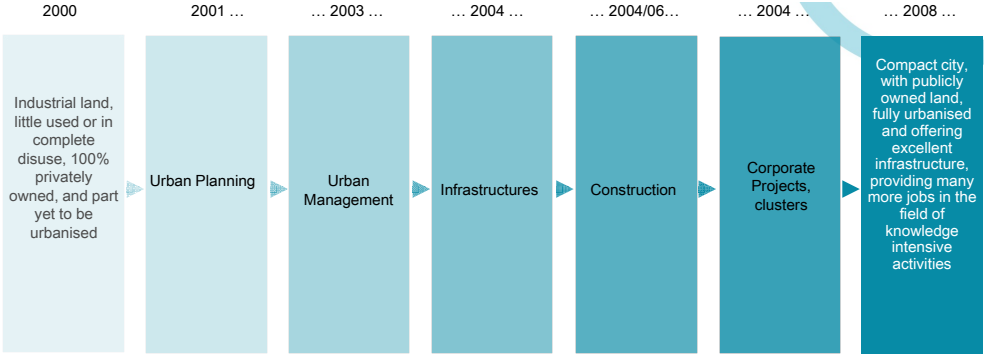
Source: own materials

Project of Barcelona 22@ Innovation District was run in three phases:

1. first phase concerned physical environment (urban planning, construction, physical infrastructure)
2. phase two concerned corporate environment (attracting corporate partners, companies location, economic activity)
3. third phase was dedicated to social environment (mostly, building personal relations of inhabitants with their community, building civil society in the district by providing both space and institutions).

The process is illustrated in Figure C3.

Figure C3. Timeline of Barcelona 22@ Innovation District creation



Source: 22@Barcelona, presentation by Ajuntament de Barcelona, http://www.22barcelona.com/documentacio/22bcn_1T2010_eng.pdf (accessed 12.05.2014).

The results of Municipality's approach to allow only selected companies from selected knowledge intensive industries are as follows (http://www.22barcelona.com/content/blogcategory/46/148/lang,en/):

- Currently, 22@Barcelona has 83,640 business premises, according to the city register, 42.5% more than in 2002, when there were 58,690. This increase is well above the city average. Additionally, 42% of the floor space is occupied by premises used for economic or service activities, more than the 33% for the city as a whole.
- The latest available census of the 22@Barcelona area shows 7,064 companies and 4,400 freelance workers. The number of companies has grown 105.5% since 2000, where there were 3,437 businesses. This increase is well above that of the province of Barcelona (57.3%) and that of Catalonia (60%).
- An estimated 4,500 new companies have moved to the district since 2000, an average of 545 per year and 1.2 per day, although the most prolific era

was from 2003 to 2006. Of the 4,500 companies, 47.3% are new start-ups. The rest have moved from other locations.

- Finally, 27% of companies in 22@ are knowledge-intensive and three out of ten companies created after 2000 are knowledge– or technology-intensive (31%).
- The estimated number of workers in the district is 90,000 (not counting freelance workers), 62.5% more than in 2000 for a total increase of 56,200 workers. Additionally, the global business turnover, not only of companies that carry out @ activities, totals some 8,900 million euros per year.
- Since 2001, the resident population in 22@Barcelona has grown 22.8%, from 73,464 inhabitants to 90,214 (16,750 more people). This increase is 15% higher than the average for the city of Barcelona, which experienced a growth of 8% between 2001 and 2009. The average growth for the metropolitan area in this time period was 13.7% and for Catalonia, 17.9%.

Case-study questions:

1. Compare Barcelona 22@ district with Aviation Valley ("Podkarpacki Klaster Lotniczy" – Podkarpackie Powiązanie Kooperacyjne) in terms of:
   a. Public sector approach to business – instruments of investors' attraction, selection of investors.
   b. Results of the public-private cooperation (no. of investors, no. of new jobs, industries present at the clusters, other economic indices).
3. Identify success factors in Barcelona 22@ Innovative District. What differentiates it from other projects and what qualities stand behind its good results?
4. Barcelona 22@ Innovative District as a urban regeneration project: what factors seem necessary to create conditions for social and territorial urban regeneration? What mix of factors is the most effective?

Bibliography

Ajuntament de Barcelona, *22@Barcelona*, presentation, http://www.22barcelona.com/documentacio/22bcn_1T2010_eng.pdf (accessed 12.05.2014).

Leon, N. (2008) *Attract and connect: The Barcelona innovation district and the internationalization of Barcelona business, Innovation: management, policy, and practice,* vol. 10, pp. 235-246.

Sustainable Cities Collective, *Barcelona 22@ Innovative District*, http://sustainablecitiescollective.com/ecpa-urban-planning/27601/case-study-22-barcelona-innovation-district (accessed 10.06.2014).

The Triple Helix Research Group, Stanford University, *The Triple Helix Concept*, http://triplehelix.stanford.edu/3helix_concept (accessed 30.06.2014).

Case Study 6

Re-empresa: a program of Deputació de Catalunya on company's re-purchase

Re-empresa is a program of Government of Catalonia with an objective to connect entrepreneurs willing to sell their company with potential buyers. The Deputació's representatives call this initiative "corporate recycling", as it aims to limit the number of both new companies and companies' closures.

Re-empresa's web-site features a browser when interested parties can chose a company they want to buy, using various filters (territory, industry, price, etc.), therefore to find the exact service they are interested in.

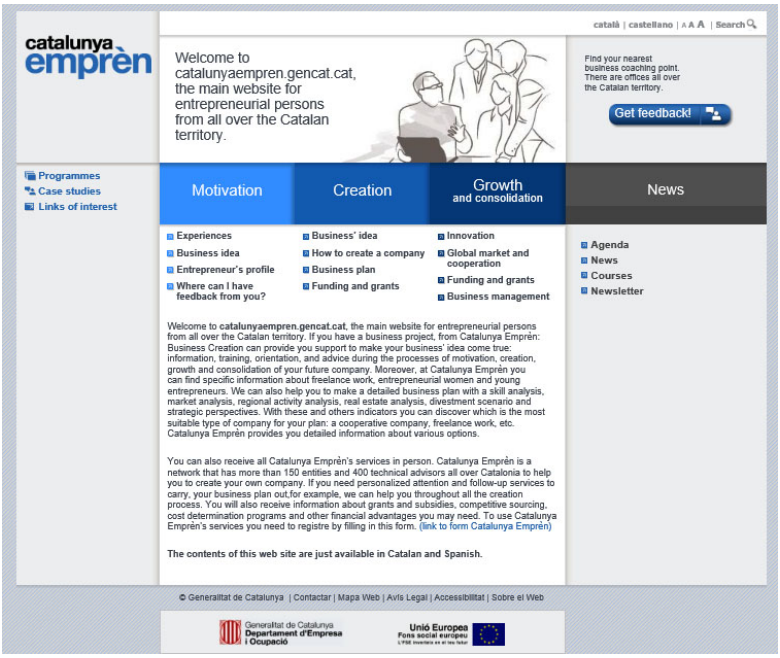
The purchase via Re-empresa is serviced with free management consulting, accounting and legal advice, making the process more accessible to entrepreneurs.

So far, Re-empresa program managed to connect entrepreneurs from 41 places, securing purchase of 250 companies worth 11,9 million Euro, providing 1000 jobs.

Case Study 7

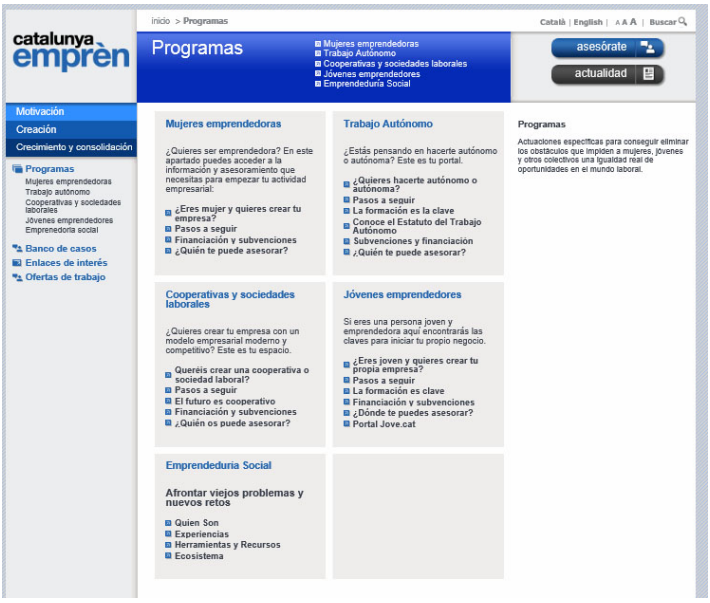
Support of entrepreneurs by Regional Government of Catalonia – chosen programs and actions

Regional Government of Catalonia (Generalitat de Catalunya) in cooperation with European Social Fund of the European Union and federal Ministry of Employment and Social Affairs is running a series of programs directed at Catalan entrepreneurs. Programs' objectives vary, as do their potential recipients – people searching for new business opportunities, entrepreneurs seeking new sources of capital, unemployed and various groups of population: women, older age groups, long-term unemployed. Actions under the programs include: information, training, orientation, and advice during the processes of motivation, creation, growth and consolidation of a future company.

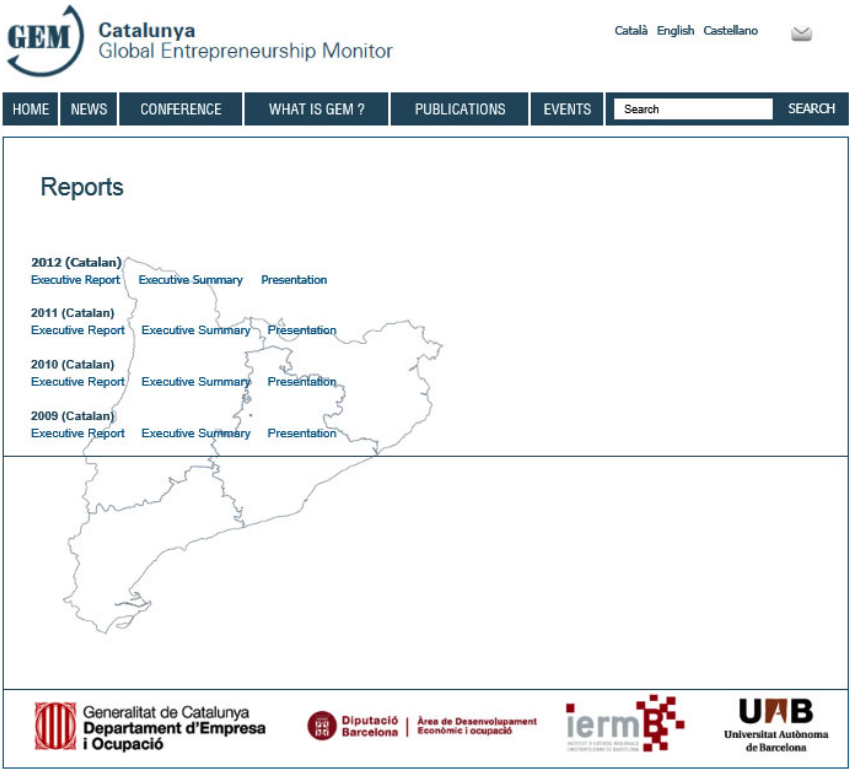


The most interesting initiatives under the "Catalunya emprèn" program include:

1. Enterpreneur's profile: a software: "l'Entrenador d'Habilitats Directives" (available free from Diputació de Barcelona) which enables an entrepreneur to evaluate his/her company's assets, strengths and possible areas of improvement. Through a series of questions, an entrepreneur is given a thorough assessment of a company, without the necessity of using a service of a professional management consultancy. Moreover, the program allows to learn from included case-studies and other companies experience.
2. Series of guides-lines and tool-kits directed at different target groups: women, free-lancers, young entrepreneurs co-operatives, and other social entrepreneurship entities.



3. "Global Entrepreneurship Monitor": a yearly report focused on quantitative analysis of business sector in Catalonia. Survey results include data such as: level of internationalization of Catalan companies, business activity by sector, engagement of Catalan population in business activity (current and expected). This initiative adds to Barcelona's Municipality (Ajuntament de Barcelona) program of data collection – OpenData. Under this program all sorts of data on city level but also on district level is collected and computed with big data technology. This allows to draw a precise picture of urban activities, challenges, and solutions needed.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Case study 8

Innovation clusters around the world – any lessons learned for Poland?

Read an introductory text below presenting chosen aspects of key innovation clusters in the world. Study the websites or documents which are referred to in the text.

1. Silicon Valley, California

There is an ongoing debate regarding innovation clusters. Probably just a few places in the world may be proud of the features of an effective cluster. The most renowned world innovation cluster is Silicon Valley in California, United States. Silicon Valley is famous for numerous technology corporations (its name is related to silicon chips manufacturers and innovators) and start-ups, which are located there. After decades of frustration, the world is still struggling to guess the secret of Silicon Valley's success – the towns and cities there have plenty of high-tech talent, but that is not a fully satisfying explanation: those ambitious young engineers and innovators could find work just about anywhere they choose[340].

Probably, one of the reasons for Silicon Valley's success is its proximity to Stanford University. It is one of the most important academic institutions in the world, which supports entrepreneurship. Historically, it was reflected in numerous activities developed around the university. For instance, after the World War II, in 1951 Stanford Industrial Park (later Stanford Research Park) was created, which claims to be the world's first technology-focused office park. Very soon venture capital businesses and technology companies started to

[340] B. Jaruzelski, Why is Sillicon Valley's Sucess so hard to Replicate, „Scientific American", March 14th, 2014, http://www.scientificamerican.com/article/why-silicon-valleys-success-is-so-hard-to-replicate/

develop fast around Stanford. Biggest early successes of Silicon Valley were the following: Hewlett-Packard, Eastman Kodak, General Electric or Lockheed.

The Stanford Research Park is described in detail on the website. We are referring the readers of this book to that source, noting down below just a few quotations to give a first good glimpse of that place. "The Stanford Research Park at Stanford University is home to an extraordinary number of success stories. Founded in 1951, through the foresight of Stanford Dean of Engineering Frederick Terman and others, the Park was the first of its kind and became the cornerstone of what would eventually be known as Silicon Valley. Over the years, it has continued to attract some of the most successful and respected technology companies in the world. For companies on the leading edge of technology, the Park provides critical access to extraordinary talent, creativity and innovation. From early electronic pioneers Bill Hewlett and David Packard, to brilliant physicists Russell and Sigurd Varian, to today's technology innovators, many accomplished scientists and entrepreneurs have found that the Stanford Research Park offers a productive environment in which to grow ideas and build companies"[341].

In order to support prospective entrepreneurs to cooperate with the park, The Stanford Research Park Handbook was developed. The Stanford Research Park has very strong ties to high education. Silicon Valley entrepreneurs have access to top-class knowledge and expertise of academics of Stanford, but also of other top universities in California. Close, professional relationships can be developed between academics, students and entrepreneurs who all work in an environment, which is especially favorable to any new risky undertakings or start-ups. This is reflected in numerous business stories developed within Silicon Valley.

Inter alia, the following companies – plenty of which are huge global corporations – have their headquarters in the Silicon Valley: Adobe Systems (San José), Agilent Technologies (Santa Clara), Apple Inc. (Cupertino), Cisco Systems (San José), eBay (San José), Facebook (Menlo Park), Google (Mountain View), Hewlett-Packard (Palo Alto), Intel (Santa Clara), Nvidia (Santa Clara), Oracle Corporation (Redwood City), SanDisk (Milpitas), Symantec (Mountain View), or Yahoo! (Sunnyvale). It is worth noting that all companies mentioned above – as examples of firms traded at New York Stock Exchange are components of the S&P 500, which groups 500 large-cap corporations in United States. On top of this, it is worth mentioning that Apple is the most valuable global firm with a market capitalization exceeding 750 billion USD as of late April 2015; last, but not least, Apple logo is the most valuable global brand – according to

[341] http://lbre.stanford.edu/realestate/research_park

last Interbrand ranking for 2014, its value exceeded 118 billion USD, which was a significant 21% increase comparing to the previous year[342].

Interestingly, Silicon Valley competes with other technology innovation clusters in the United States. Recently, also New York is becoming a hub, with San Diego and Chicago following. But when it comes to tech acquisitions, Silicon Valley still reigns supreme (Silicon Valley tops the list of the top 10 metropolitan areas in terms of total tech acquisitions in 2013, according to new data from financial research firm PrivCo)[343].

Silicon Valley (including San Francisco and the surrounding region) dwarfs the nine other areas listed, with 281 total private tech acquisitions in 2013, or nearly one every business day (all the other cities on PrivCo's top 10 list *combined* don't reach 281 total acquisitions)[344]. In another article, one may find the following comment regarding this cluster: "Silicon Valley has become an institution. Venture capital has matured, IPOs have stabilized, and incubators are reliably churning out generation after generation of paradigm-shifters"[345]. But there are also challenges to be faced up with: "The Silicon Valley public sector has been struggling with the burdens of reduced tax revenues and expanding populations for some time now, and (…) it's high time for the Silicon Valley technical class to exercise some corporate social responsibility"[346].

As regards future of Silicon Valley, although many commentators believe in its longevity, some scepticism is also out there. For instance, Dr Hiram Willis, professor of International Technological University generally reflecting positively about Sillicon Valley as an effective cluster, also claims the following: "Silicon Valley must learn how to compete with other US regions. I feel we are rather uniquely blessed with great universities, an Asian-Pacific location, VC infrastructure, and networks of investors that seek to support entrepreneurs looking to start new businesses"[347].

342 http://www.bestglobalbrands.com/2014/ranking/

343 http://venturebeat.com/2014/05/12/top-10-spots-for-tech-acquisitions/

344 *Ibidem*.

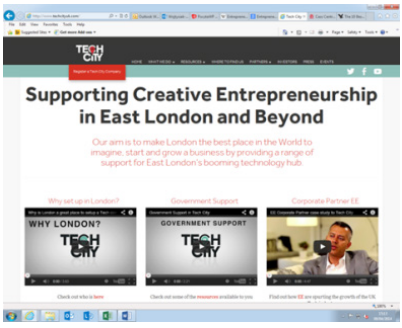
345 http://venturebeat.com/2014/02/11/when-will-silicon-valley-finally-grow-up-and-pay-its-dues-to-the-community/

346 *Ibidem*.

347 http://itu.edu/blog/the-future-of-silicon-valley/

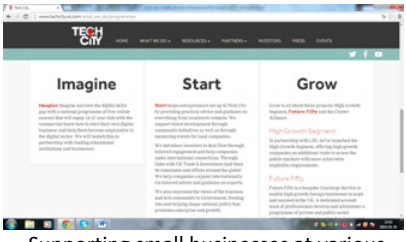
2. Tech City, London[348]

Another interesting star-up location on the map of the world is London, with its TechCity. "East London Tech City (also known asTech CityorSilicon Roundabout) is a technology cluster located in Central and East London, United Kingdom. It broadly occupies the part of London's East End, between Old Street (the boundary of Central and East London) and the Queen Elizabeth Olympic Park in Stratford, with its locus in the Shoreditch area. It is the third-largest technology start-up cluster in the world after San Francisco and New York City"[349]. Below, a selection of print screens from the website www.techcityuk.com was compiled. Readers of this case study are requested to study the contents of this website before proceeding further.



East London as Europe's Silicon Valley

Effective technology cluster



Supporting small businesses at various stages

Cooperation with academia – UCL case

Support of the state – tax reliefs

Interesting track record

348 See more at: www.techcityuk.com

349 As introduced in Wikipedia. See more at: http://en.wikipedia.org/wiki/East_London_Tech_City

One should mention, that a couple of years ago, Tech City idea was strongly backed by Prime Minister Cameron and UK Government. Mr Cameron said in 2010 for instance: "Our ambition is to bring together the creativity and energy of Shoreditch and the incredible possibilities of the Olympic Park to help make east London one of the world's great technology centres," he said. "We want to help to create the right framework, so it's easier for new companies to start up, for venture capital firms to invest, for innovations to flourish, for businesses to grow."[350]

Also Boris Johnson, mayor of London is an optimist as regard the Tech City initiative. He claimed recently the following: "There is no question in my mind that London will eventually produce one of the great global leaders in tech like Facebook or Amazon or Google or whatever. It is just a matter of time."[351] Later on, in March 2014 Johnson outlined what he said was his "vision" to make London the technology capital of the world. "It included the formation of a new London Tech Ambassadors Group, nine influential figures that will travel the globe in an attempt to lure companies to London"[352].

Tech City is located not in the most beautiful part of London, probably (surroundings of the traffic junction that joins Old Street with City Road). "For decades, this was just the ugly Old Street roundabout. Since 2009, it has been coined the Silicon Roundabout, supposedly Britain's answer to California's tech-centric Silicon Valley. Three years ago, the area housed only a dozen digital startups. Now there are at least 300 – and that's a conservative estimate. Last.fm is based here, as are SoundCloud and TweetDeck, which was recently bought by Twitter for £25m. It was a sale that made the tech world sit up and listen"[353]. The number of companies linked to TechCity has grown significantly since then, with estimated of even couple of thousands of companies forming the cluster now.

Plenty lot of established technology companies are active in Tech City. Additionally, amongst the first technology companies located in the area were Dopplr (a social networking service, launched in 2007 that allowed users to create itineraries of their travel plans, acquired by Nokia recently), Last.fm (music recommendation website, with social networking mechanisms implemented, acquired by CBS Interactive), or bergcloud.com (cloud services for innovators).

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350 J. McGregor, *Tech City – believe the hype?*, May 1st, 2013, http://www.theguardian.com/technology/blog/2013/may/01/tech-city-funding-uk-startups

351 http://www.bbc.com/news/technology-26480383

352 Ibidem.

353 http://www.theguardian.com/business/2011/nov/27/tech-city-digital-startups-shoreditch

The new businesses being active recently within TechCity are just the following examples:

- eConsultancy: "We're Econsultancy. By arming a global community of marketers and ecommerce professionals with a wide range of research, data, analysis, training, consulting, events and online resources we enable organisations and individual professionals to succeed online"[354].
- We are social: "Hello, we are social. We're a global conversation agency, with offices in London, New York, Paris, Milan, Munich, Singapore, Sydney & São Paulo. We help brands to listen, understand and engage in conversations in social media"[355].

Made by Many: (Innovation accelerator). „We help businesses identify market opportunities, bring successful digital products to life and create the culture & capabilities to sustain them"[356].

- Albion: We help invent and reinvent businesses to make them remarkable (and so unlock growth)[357].

Entrepreneurs notice changes as regards trends on career paths. This mey be linked to TechCity very often. Alastair Mitchell, CEO and co-founder of the cloud collaboration tool Huddle, which began as a start-up in London in 2006, said: "As Tech City has gained more profile, we've also seen the spotlight shine on our home-grown talent and many of our brightest grads have started to join smaller start-ups. Rather than follow the traditional path of heading to financial or consultancy firms to tune technology as soon as they've finished their degrees, they're heading to companies where they can have a real impact on its direction and service"[358].

Naturally, Tech City is a cluster, a space in which plenty lot of entrepreneurial activities might be developed. One of probably most interesting initiatives of this kind, is The Unrulyversity Idea, a cooperation of a business school and a social media business. Probably, this idea is really very well fitting into the current business context, as expressed in the previous paragraph.

"City Unrulyversity is a **free pop-up university i**n the heart of Tech City. Our mission is to inform, inspire, and empower the next generation of Tech City entrepreneurs. We pop up every Wednesday from 6.15-8.15 PM at **Unruly HQ**, just off Brick Lane. Taught by leading academics of City University London, City

354 https://econsultancy.com/

355 http://wearesocial.net/

356 http://www.madebymany.com/

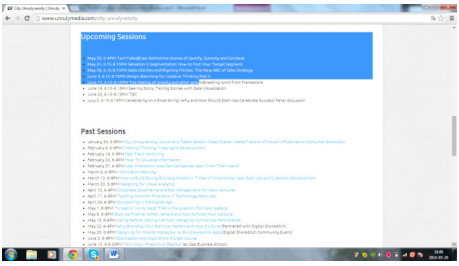
357 http://albion.co/

358 http://www.computerweekly.com/news/2240210505/27-percent-of-London-job-growth-comes-from-technology

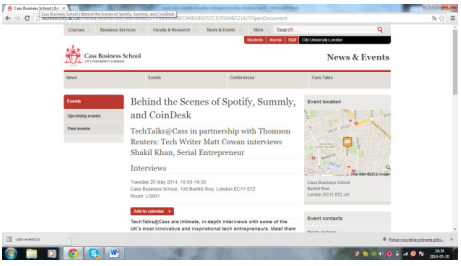
Unrulyversity brings you the best of both worlds by combining practical relevance with academic rigour, theoretical underpinnings, and the latest research. All sessions are interactive and focus on sharing knowledge, discussing ideas, challenging assumptions, and reflecting on your own business practice"[359].

Below, a selection of print screens from the website www.unrulymedia.com/city-unrulyversity was compiled. Readers of this case study are requested to study the contents of this website before proceeding further.

a free pop-up university, co-operation between a social media firm and a university



plenty lot of interesting sessions



details about one of the events

new model of educating and inspiring entrepreneurs appreciated by "The Guardian"

"The driving forces behind City Unrulyversity are Dr Caroline Wiertz, Reader in Marketing at Cass Business School and Sarah Wood, co-founder and Chief Operating Officer at Unruly. Both are passionate about this novel and 'unruly' link between academia and small fast-growing businesses"[360].

Caroline Wiertz believes that start-ups are the future as they would grow into tomorrow's big global companies. "My students can be too focused on working in large investment banks and consulting firms, but we think the future is on the innovation side"[361]. Sarah Wood adds that links with academia help companies to grow[362].

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359 Info on City Unrulyversity available at: http://www.unrulymedia.com/city-unrulyversity , consulted at May 20th, 2014.

360 http://www.westminster-briefing.com/features/feature-detail/newsarticle/city-unrulyversity/

361 http://www.westminster-briefing.com/features/feature-detail/newsarticle/city-unrulyversity/

362 *Ibidem.*

"The partnership is unusual – a creative digital agency and a higher education institute: but it's a match that has been growing organically since its co-founders met in 2007, into a productive symbiotic relationship, with staff from Unruly lecturing at Cass Business School in marketing topics, and students taking on real-life experience through internships at Unruly"[363].

Similarly to the case of Silicon Valley in California, also the Techcity in London shows importance of cooperation between business and academia. This direction might be considered as a kind of benchmark for the future.

3. The entrepreneurial scene in Helsinki, Finland

Finland is a very interesting case on a global start-up scene. This is a home country for Nokia, for years an example of a very prosperous, global corporation. "In the early 2000s and mid-2000s, Nokia was the most respected company in the country. Many of the smartest university kids would rank Nokia together with McKinsey, Boston Consulting or an investment bank on top of their list" Helsinki-based angel investor Moaffak Ahmed claims[364].

Since then things have changed significantly; during the late years of the first decade of the new century, Nokia suffered from financial crisis and could not perform effectively on the corporate strategic level. The real problem was Apple, which launched the iPhone – since then things have changed very quickly[365]. Nevertheless, the company was wise in supporting the development of an entrepreneurial ecosystem in Finland.

"Nokia both deliberately and inadvertently helped foster the growth of the Helsinki startup scene. In the late 2000s, it was able to make workers redundant with a severance package worth having, giving them the wherewithal to start their own operation, and through Nokia Bridge, a scheme designed to finance departing employees' startups with seed capital of up to €25,000 per employee or €150,000 per startup"[366].

363 http://blog.oi-london.org.uk/post/53270239203/oi-interview-caroline-wiertz-co-founder

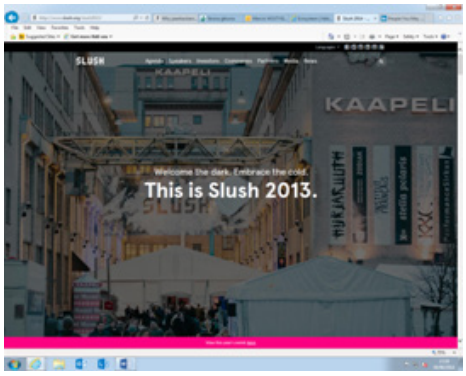
364 http://www.techrepublic.com/blog/five-apps/from-angry-birds-to-nokia-castaways-finlands-startup-scene-has-huge-ambitions/

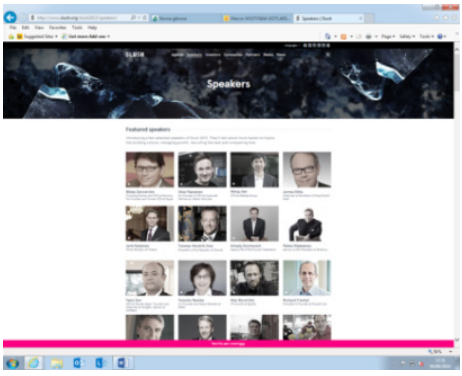
365 http://www.ibtimes.co.uk/finland-tech-scene-making-unfair-advantage-525013

366 http://www.techrepublic.com/blog/five-apps/from-angry-birds-to-nokia-castaways-finlands-startup-scene-has-huge-ambitions/

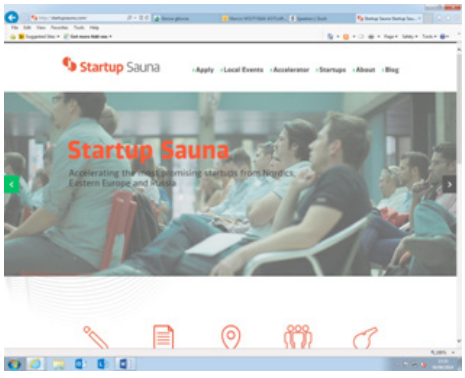
The entrepreneurial scene in Helsinki is very diverse and dynamic. Below, a number of initiatives related to the Helsinki start-up scene are presented[367]. Readers are requested to study the content of the websites mentioned in the table below, before proceeding further.

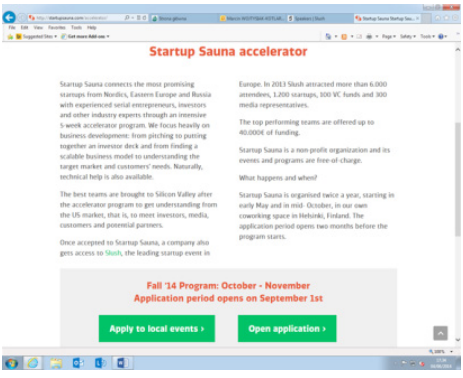
a) Innovative network and a meeting place http://blogs.helsinki.fi/helsinkithinkcompany/tervetuloa/





b) slush – a big start-up event in Helsinki http://www.slush.org/





c) Start-up Sauna Accelerator http://startupsauna.com/about/

[367] We were inspired to mention about some institutions being part of Helsinki start-up scene by Jukka Rintamäki, Researcher at Cass Business School.

Entrepreneurship and innovations in Finland these days are booming as Nokia is no longer a solid rock on which Finland's economy is built. Yearly Slush conferences taking place in Helsinki are a very evident proof of this trend. "Hundreds of startups in areas as diverse as gaming, recycling, finance and health displayed their wares to the press, but more importantly to the investors keen to take advantage of Finland's growing reputation for a reaturn on investment. So keen are investors to grab a slice of this new startup scene that despite its tiny 5.5 million population, Finland only trails Germany and France in Europe at attracting equity financing in VC-backed companies"[368].

There is an interesting culture being developed among Finnish entrepreneurs. Like in Silicon Valley, the mantra that celebrates failure as a stop on the way to a startup's ultimate success is shared. Interestingly, there is also a trend for going shoeless in startups; this may be a uniquely Finnish invention, however – it's common for startups both small and large, including Supercell, to leave their shoes at the office door[369].

Finland is ranked very high in global rankings (8th most entrepreneurial economy in the world, according to the 2014 Global Entrepreneurship and Development Index – GEDI), which is based on analysis of comprehensive data sets from more than 120 countries on entrepreneurial attitudes, aspirations, and activity. "The top country for the entrepreneurship is the USA followed by Australia, Sweden, Denmark, Switzerland, Taiwan, Finland, the Netherlands and the UK. Finland's total score in the rankings was 69.3 whereas the top country the USA scored 82.5 points"[370].

At spring 2014, the Red Herring has chosen again top 100 Europe startups (21 Finnish companies were amongst the finalists). The award is widely recognized and prestigious. The methodology of the competition uses more than 20 criteria to analyse the companies (inter alia: revenues, growth rate, industry awards and recognitions, technological advantage, customer base and teams track record). "The Finnish companies nominated include gaming companies Fingersoft and Boomlagoon, cloud computing company Indoor Atlas, mobile company Musopia, entertainment company SingOn and clean tech company Valopaa"[371].

368 http://www.ibtimes.co.uk/finland-tech-scene-making-unfair-advantage-525013

369 http://www.techrepublic.com/blog/five-apps/from-angry-birds-to-nokia-castaways-finlands-startup-scene-has-huge-ambitions/

370 http://www.helsinkibusinesshub.fi/article/finland-amongst-top-ten-countries-for-entrepreneurship/

371 http://www.goodnewsfinland.com/archive/news/21-finnish-start-ups-make-it-to-the-red-herrings-top-100-europe-list/

Task: On the grounds of your studying of the material regarding Silicon Valley in California, Tech City in London and Helsinki start-up scene, plus additional documents, if necessary, develop written answers to the following questions:

1. ***What are sine qua non elements of an effective cluster?***
2. ***Is partnership of business and academia vital for the development of entrepreneurship?***
3. ***How should state or municipal authorities support development of start-ups?***
4. ***Name most successful technology start-ups in Poland. What criteria were applied by you in the selection process?***
5. ***What would your top 5 recommendations be for Warsaw as a prospective start-up scene of the future?***

Case study 9

More than Money Careers

Choose your sustainable career

More than Money Careers is a company, a certified Benefit Corporation, assisting in finding a sustainable and green job which not only bring income but also combine it with social impact and service for environment. The founders of the company are Dr Mark Albion and Dr Mrim Boutla.

To realize this mission they assist:

- universities to help students looking looking for socially responsible or green jobs;
- fellowship programs and professional assosiations;
- individuals to choose the best job for their skills and abilities, get access to job offers, get tactics for looking for a job that suits their needs.

The company offers access to a rich collection of resources, including, various communications tools, forums, calendaring, document management, and other personalized content via the website.

The owners write a blog and webinars for students to get advice on finding a right position. One of the post was devoted to Impact Investing Careers.

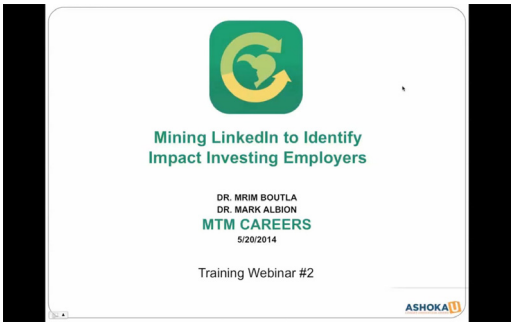
"Key take home messages included:

- Impact investing is a broad field that seeks to generate financial, social, and environmental value.
- Many university staff and faculty have outdated beliefs about impact investing careers. Therefore, their advice to students and graduates is not aligned with current employment trends and hiring practices. For example, many believe that impact investing careers are focused on valuations, and are therefore only valid options or finance majors. This is

inaccurate, there are many impact investing career options available to liberal arts and law students.

- The same job can be a dream job for one graduate and a nightmare for another. This is not due to their major or their degree program, but rather to personal differences in motivated skills, work/life balance priorities, and impact focus. We discuss how our triple fit model best helps graduates (and their universities) gain clarity about which jobs each student would like so that they can best focus on competing for impact investing jobs they will actually like doing[372]."

Exhibit 1. 2014 Webinar Series: Impact Investing Careers



Source: 2014 Webinar Series: Impact Investing Careers, http://www.mtmc.co/impact-investing-careers/, 14.06.15.

Questions to answer:

1. Read advice available at More than Money Career blog. Think of a sustainability related job you can find with your degree. Write a plan that a student should follow to get this job.
2. Check your social network accounts. How many of the people you know have green jobs (including working for environment or social cause)? How many of them could possibly integrate does elements. Put them in the groups according to your own categories. Which group is the largest? What skills are necessary to join this group?

Bibliography

2014 Webinar Series: Impact Investing Careers, http://www.mtmc.co/impact-investing-careers/, 14.06.15.

[372] 2014 Webinar Series: Impact Investing Careers, http://www.mtmc.co/impact-investing-careers/, 14.06.15.

Case Study 10

How to profit from being green in cities? Benefits for city's economy

Case Study 10.1. Economic benefits of green spaces

Green spaces are mostly associated with recreational values for urban population. They also bring environmental benefits, by filtering pollutants and dust, providing shade and lowering temperature in urban areas. Green spaces however also create important factor when it comes to competitiveness of the city, mostly via areas such as: natural environment, health and well-being of population, social and economic benefits.

The following case-study will focus on the economic benefits of maintaining proper degree of green spaces in a city, proving that their existence constitutes to real economic value.

Economic benefits of green-spaces are manifested in following ways:

- **Cost savings for government related to environment and health expenditure**: green spaces contribute to reducing costs for public sector, related to addressing environmental, health and social challenges. The impact in this manner is rather indirect. It has been estimated however that people in the UK are 24% more likely to physically active if they have easy access to green spaces. If the whole 24%-group of population would actually using this opportunity to get active, the life-cost averted saving to the health system would be around £2.1 billion per year (Coombs et al (2010) and Natural England (2009) cited in: BOP Consulting 2013, p. 16).
- **Increasing property and land value for home owners**: proximity of green spaces is a factor in land and property value. It has been estimated (Smith 2010) that location within 600 meters of an urban park added between 1.9% to 2.9% to the total house value. Other studies brought similar results, proving for example that location on the edge of a park

had the potential to attract a premium of up to 19% on house prices (BOP Consulting, p. 17).

- **Promoting tourism**: green spaces are not only recreational areas for city residents but they can also constitute a tourist attraction on their own (e.g. Park Güell in Barcelona), therefore can be a significant element of urban marketing. Data collected by the London Visitor Survey prove that green spaces play a role in attracting tourists to London: 80% of overseas tourists, 74% of UK staying visitors, 70% of UK day visitors and 77% of London residents ranked "parks and gardens" as "important" or "very important" in their decision to visit London (data collected in 2008 on a group of 4 587 visitors).
- **Factor in business location**: impact of green spaces in attracting businesses to locate is indirect, working mainly through the rise of quality of life of existing and potential workers. Even there is little evidence on the importance of this particular element of life to the business locations, there is much extensive body of literature on the subject of quality of urban life (e.g. yearly report of Cushman and Wakefield "European Cities Monitor"), proving that it has a growing impact on European location choices. There is also other studies, however, that focus on young business people in the United States, that prove that small businesses choosing a new business location rank the amount of open space and proximity to parks and recreation as the number-one priority in site selection (University of Southern California, "Teen and Adult Perceptions of Urban Green Space Los Angeles"*;* http://www.colorado.edu/journals/cye/).

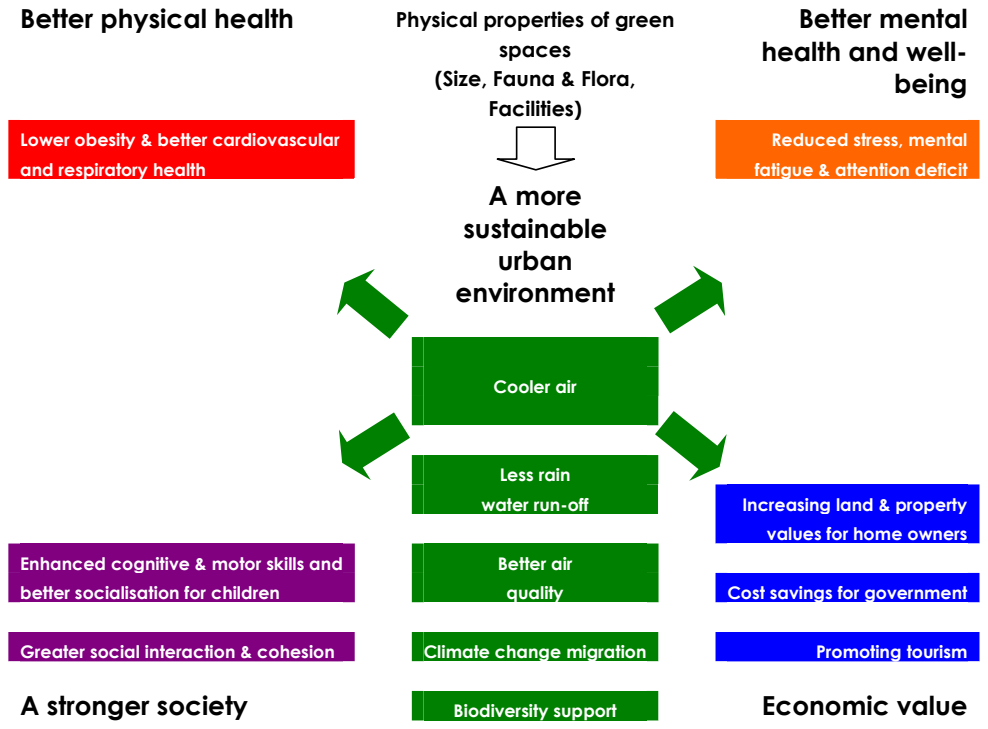
Some other facts on the economic benefits of green spaces include (Project Ever Green, http://projectevergreen.org/resources/economic-benefits-of-green-spaces/, accessed 17.06.2014):

- *Smart Money Magazine* indicated that consumers value a landscaped home up to 11.3 percent higher than its base price (*Smart Money Magazine,* March 3, 2003 issue).
- A study by Aspen Environmental Companies found that a landscaping investment is nearly always recovered and can help reduce time on the market (Aspen Environmental Companies; http://www.aspenenviro.com/benefits.html).
- Money Magazine says: "attractively landscaping your yard can be one of the most cost-effective ways to boost your home's curb appeal," and emphasizes the value added by trees (*Money Magazine;* http://money.cnn.com/magazines/moneymag/moneymag_archive/2006/04/01/8373307/index.htm).

- In Canada, researchers at Quebec's Laval University created a detailed survey study of 760 home sales and found that landscaping attributes (trees, flowers, plants, hedges) can "command a substantial market premium" (*Landscaping and House Values: An Empirical Investigation*, Francois Des Rosiers, et al, Laval University, Canada).

Evidence on the economic benefits of green spaces in cities prove that they are present indirectly, mainly via health and well-being increase of the population. Another significant thread is via the real estate market.

Figure C4. Benefits provided by green spaces



Source: BOP Consulting, *Green Spaces: The Benefits for London, Report prepared for the City of London Corporation*, July 2013, p. 21 (http://www.cityoflondon.gov.uk/business/economic-research-and-information/research-publications/Documents/research-2013/Green-Spaces-The-Benefits-for-London.pdf, accessed 13.06.2014).

Case Study 10.2. Role of the recycling industry in the economy – South Carolina recycling industry.

South Carolina's recycling industry is home to about 500 recycling companies including collectors, processors, recycled product manufacturers and equipment makers. The South Carolina Department of Commerce Recycling Market Development program provides support to South Carolina's recycling businesses and industry. The state's recycling industry boasts a $6.5 billion economic impact which has led to the development of an economic cluster formed to grow the industry in SC – this group is known as the Recycling Industry Group (RIG) and is supported by Recycling Market Development staff. Commerce staff helps new and existing industry with their economic development needs – recycling start-ups and expansions in South Carolina help support existing industry with feedstock (http://sc.myecoville.com/business-recycling-programs/, accessed 17.06.2014).

Generally, the economic benefits of recycling are evident via following lines:

Job creation: mainly in recycling industry itself, but also in supporting businesses, manufacturing facilities that rely on recyclables.

Saving money: from the sale of recyclable materials and through reduced disposal fees.

Retaining local employers: businesses that rely on recyclable commodities tend to remain in their location and continue to their development.

Generating tax revenue.

Producing economic development opportunities: collection of recyclables may attract businesses from the recycling industry.

In terms of real-life benefits for South Carolina's economy, recycling industry contributed to:

- Job creation: 37 440 jobs (paying above state average) and $1.5 billion in personal income.
- Further jobs in supporting industries: on national level, for 1.1 million people directly employed in recycling, there are an additional 1.4 million jobs (with $52 billion payroll) in supporting businesses.
- Revenue: est. $69 million in state tax revenue.
- Economic impact: estimated total economic impact of $6.5 billion.

Figure C5. Recycling economic impact in the US

Summary of Estimates of Direct Economic Activity, REI Study

Annual Payroll and Estimate Receipts are in $1,000

data type	industry sector				industry total
	recycling collection	recycling processing	recycling manufacturing	reuse and remanufacturing	
establishments	9,247	12,051	8,047	26,716	56,061
employment	32,010	160,865	759,746	169,183	1,121,804
annual payroll	956,875	3,826,360	29,181,749	2,747,498	36,712,482
estimated receipts	1,974,516	41,753,902	178,390,423	14,182,531	236,301,371

source: Recycling Economic Impact Study, EPA, 2001

Source: *The Economics of Recycling in the Southeast: Understanding the Whole Picture*, United States Environmental Protection Agency, Region 4, p. 4, http://www.epa.gov/region4/rcra/mgtoolkit/documents/Economics_Fact_Sheet.pdf, accessed 13.06.2014.

Case Study 10.3. Benefits of green transport in Copenhagen

Copenhagen is well known for its focus on bike transport. Not only it is facilitated by urban planners – the city is planned as to make bikes a default mode of transport for city's residents.

The city's bicycle strategy sets impressive goals of significant increase in percentage of population cycling to work and school, as well as concerning safety (Table 1).

Table T1. Goals and achievements of Copenhagen's bicycle strategy

COPENHAGEN'S BICYCLE STRATEGY 2011-2025

	'96	'98	'00	'02	'04	'06	'08	'10	'12	'15	'20	'25
Percentage that cycle to work or education (%)*	30	30	34	32	36	36	37	35	**36**	50	50	50
Percentage of cyclists that feel safe (%)*	60	58	57	56	58	53	51	67	**76**	80	85	90
Seriously injured cyclists (number per year)*	252	173	146	152	125	97	121	92	**102**	56	45	34
Share of the PLUS net that has three lanes (%)**									**17**	40	60	80
Reduction in cyclists' travel time (%)**									0	5	10	15
Satisfaction with the condition of cycle tracks (%)	48	51	40	45	50	48	54	50	**61**	70	75	80
Satisfaction with bicycle culture's benefit to city life (%)								67	**73**	70	75	80

*) These goals appear in the City of Copenhagen's 'Eco-metropolis - Our Vision for Copenhagen 2015' **) New methodology starting in 2012

Accomplishment of goal requires dramatically increased municipal commitment.
Goal will be achieved with increased municipal commitment.
Goal will be achieved in time with unchanged level of municipal commitment.

Source: *City of Cyclist – Bicycle Account 2012*, City of Copenhagen, http://subsite.kk.dk/sitecore/content/Subsites/CityOfCopenhagen/SubsiteFrontpage/LivingInCopenhagen/CityAndTraffic/~/media/4ADB52810C484064B5085F2A900CB8FB.ashx, p. 4 (accessed 17.06.2014)

Most direct consequences of biking in the city include reduced carbon emission and air pollution, as well as reduced congestion. But it also results in saving of both time and money. It has been estimated by the City of Copenhagen that for every kilometer traveled by bike instead of a car the city saves DKK 0.45. Overall, in terms of a whole city (with 1.27 million kilometers biked every day) this adds up to over $19 million saving just in avoided congestion, another $9.5 million in external costs of noise, and $9.5 million in avoided accidents.

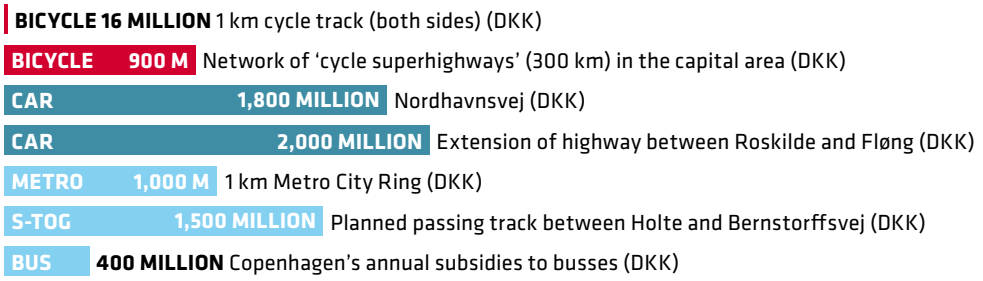
Table T2. External costs of car transport in Copenhagen (reduced)

	Reduced external cost per kilometer conducted by bike instead of car, in Dkk 2008 prices
Air Pollution	0,02
Climate change	0,03
Noise	0,1
Accidents	0,1
Infrastructure wear	0,01
Congestion	0,2
Total saved costs	0,45

Source: *Copenhagen – Beyond Green. The socioeconomic benefits of being a green city*, Green Growth Leaders, http://greengrowthleaders.org/wp-content/uploads/2011/10/CPH-Beyond-Green.pdf, p. 18 (accessed 12.06.2014).

The results in terms of economic benefits are reached with relatively (to other means of transportation in city) lower investment (Figure C6). It has been estimated that cycling-related investment in Copenhagen amount to DKK 165 per capita.

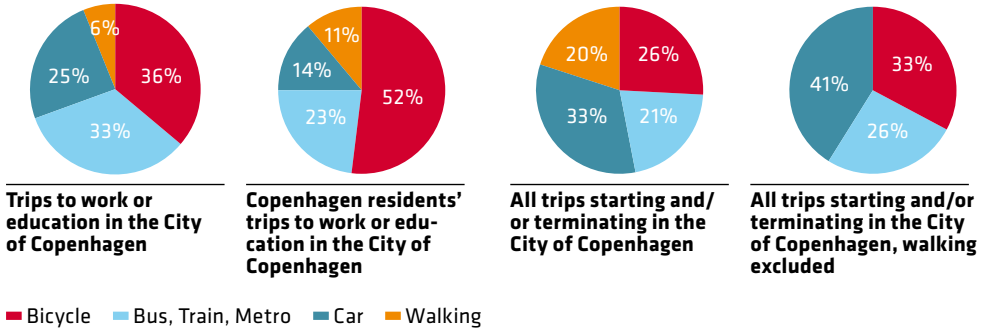
Figure C6. Infrastructure costs estimates in Copenhagen



Source: *City of Cyclist – Bicycle Account 2012*, *op. cit.*, p. 7.

Copenhagen's investment in the cycling network and infrastructure pays-off, with ever growing numbers of bikes. Quite like in other bike-oriented cities (Vienna, Stockholm, Amsterdam), cars are not predominant mode of transport (Figure C7).

Figure C7. Modal share of trips in 2012



Source: Source: *City of Cyclist – Bicycle Account 2012*, *op. cit.*, p. 5.

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