ANDRZEJ KLASIK
JERZY BINIECKI
University of Economics in Katowice

STRATEGIC CONCEPT OF REGIONAL LAND USE POLICY: ŚLĄSKIE VOIVODESHIP EXAMPLE*

Abstract: The paper presents the selected approaches and results of the foresight study concerning a balanced land use patterns on a regional level. The paper contains methodological assumptions and strategic challenges, orientations and principles making up the concept of long-term regional land use policy.
Keywords: Challenges, foresight, orientations, policy, principles.

1. Methodological assumptions

The content of the strategic concept is based on its three essential elements, that is:

- strategic challenges understood as requirements stemming from environmental processes (positional challenges, *i.e.* issues that need to be tackled in order to ensure growth) or from values (aspirational challenges, *i.e.* activities which should be undertaken in order to make the vision come true);
- strategic orientations interpreted in terms of the general area of interventions which have to be carried out in order to tackle the challenges by taking into account the change processes recognised as dominant within each of the analysed scenario of external growth factors;

* The document makes use of the results of the foresight study *Challenges in terms of sustainable use of land as illustrated by the example of Śląskie Voivodeship – 2050 Scenarios* carried out in 2009–2012 by the consortium consisting of teams from the Central Mining Institute in Katowice, Silesian University of Technology in Gliwice and University of Economics in Katowice (project co-financed by the European Union from the European Regional Development Fund under Operational Programme Innovative Economy European Funds – for the development of innovative economy).

- strategic principles understood as general policy principles differentiated in terms of types of functional areas, but applicable to all types of land use within particular areas.

In order to develop such a three-fold structured concept, it is necessary to take the following perspectives into account:

- axiological perspective,
- scenario perspective,
- systemic perspective.

By adopting the first of the above-mentioned perspectives, one acknowledges a set of fundamental values as an important indicator in identifying and formulating challenges, orientations and principles. Such values may be equated with desirable terrain attributes and they may stem from key expectations of relevant actors in terms of its management and use. By taking the second perspective into account, one acknowledges the need for further reflection on the development of strategic concept, land-use change scenarios, and especially dominant processes caused by motive and unstable factors identified within these scenarios. The third perspectives provides conclusive information on isolating the functional areas of the voivodeship and their structural units.

Fig. 1 illustrates the structure of the strategic concept and methodological framework developed for the purpose of its formulation.

Fundamental values in the context of land management and use include (see Fig. 2):

- land's durability understood as the need to retain the valuable natural heritage;
- land's usefulness understood as its ability to provide locational advantages (benefits) for different types of activities and for different entities;
- land's cohesion understood as correspondence between activities and places (locational coherence);
- availability of land for allocation and reallocation of various types and forms of use.

Each land use category results in a different hierarchy of the set of basic values. This means that for each type of land use, its specific superior value may be identified, if other values are treated like "objects".

Management and use of natural areas may be treated as subordinate to implementation of the superior value, i.e. durability. Durability of the land use means striving to preserve the natural heritage of the region in a way ensuring continuity of use and viability of spatial structures.

In the case of land used for economic activity, the function of the superior value is performed by usability regulated by the market and the competition.

For settlement areas, the superior value is the cohesion related to harmonisation of various types and forms of use, resulting in building favourable neighbourhood relations and increasing the quality of life.

As regards spatial integration areas, the superior value is the accessibility (determined by transport and transit systems) increasing the freedom of allocation and reallocation of land.

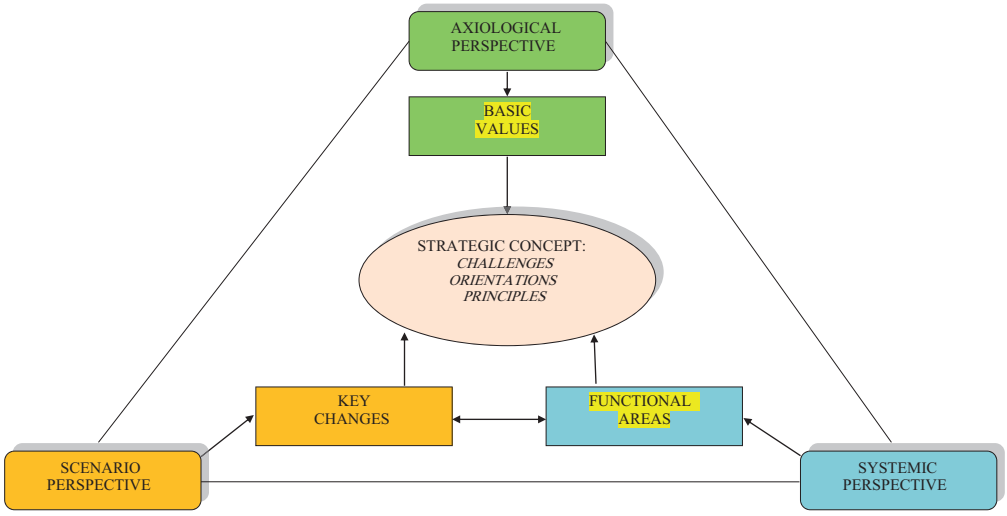

Figure 1. Logic of the process of formulating the strategic concept of regional land use

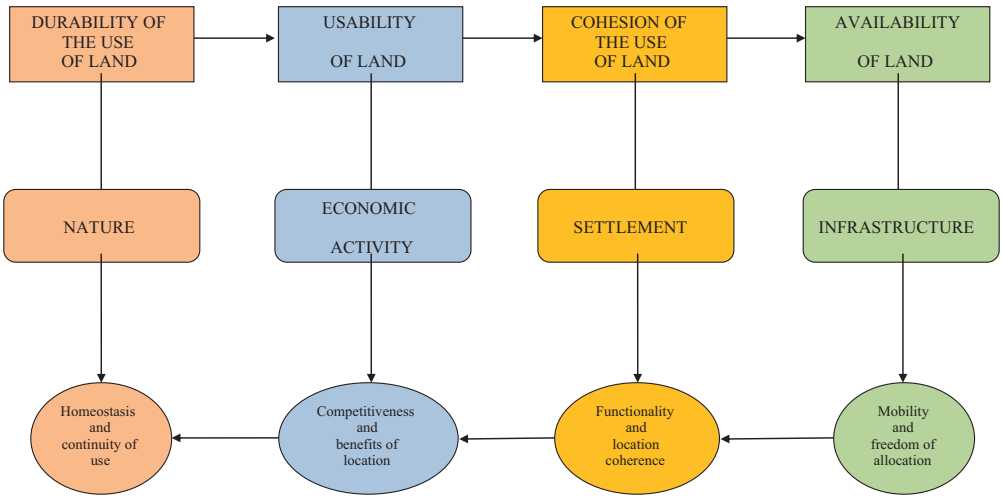

Figure 2. Value chain in the cycle of land management and use

The following set of scenarios[1] constitutes the basis for creating the strategic concept using the scenario perspective:

- Scenario I: globalisation – trend continuation;
- Scenario II: change of development paradigm;
- Scenario III: dominance of development network;
- Scenario IV: crisis;
- Scenario V: harmonious development.

Using the systemic perspective, the voivodeship was divided into three main functional areas and their constituent structural units [see: Klasik *et al.* 2011]:

- Upper Silesian Metropolitan Area, including:
  - core zone;
  - outer zone;
- Agglomeration areas, including:
  Częstochowa Agglomeration Area;
  Bielsko-Biała Agglomeration Area;
  Rybnik Agglomeration Area;
- Dispersed areas, including:
  - Raciborski;
  - Cieszyński;
  - Żywiecki;
  - Zawierciański;
  - Lubliniecki;
  - Kłobucki;
  - Myszkowski;
  - Częstochowa Rural Area.

2. Strategic challenges

Strategic challenges have been formulated based on the analysis of the scenario contents, treating them as a synthetic summary of the central themes of those scenarios.

Multi-level arrangement of challenges follows on from which of the expected scenarios will be *de facto* implemented.

In the case of implementation of scenarios I and IV, the key role will be played by basic challenges related to survival requiring the mitigation of the human impact on the environment and strengthening the region's resilience.

In the case of implementation of scenarios II and V, development challenges become of key importance, the addressing of which should stimulate the process of greening and enhancing the settlement attractiveness of the region.

[1] The scenarios were developed by a team headed by Z. Kamiński, see: [Trząski 2012].

Table 1

Scenarios and strategic challenges

SCENARIOS	STRATEGIC CHALLENGES
SCENARIO I Globalisation – trend continuation	Reducing the threat of human impact on the environment resulting from progressing urbanisation of the region
SCENARIO II Change of development paradigm	Greening of regional production and infrastructural systems
SCENARIO III Dominance of development network	Strengthening the metropolitan position of the region in the national and European space
SCENARIO IV Crisis	Increasing the resilience of the region to crisis and degradation of spatial structures
SCENARIO V Harmonious development	Increase in the settlement attractiveness focused on the development of a smart region

The implementation of scenario III dictates the prioritisation of the position challenge, the addressing of which implies the will to strengthen the position of the region within a national and international reference system (see Fig. 3).

Fig. 3. Three levels of strategic challenges

Strategic challenges should have their own "personal address". It implies determining the key (decision-making) entity responsible for addressing and overcoming these challenges as well as cooperating entities (see also Table 2).

In a way consistent with the nature of the five strategic challenges, the key entity, which is the regional government and its institutions, should initiate cooperation with different in terms of their composition groups of stakeholders, and establishing strategic alliances with these stakeholders.

3. Strategic orientations

The objective of defining strategic orientations is to establish the nature of interventions whose introduction by the regional government is necessary in order to tackle particular challenges.

The basis of developing the concept of strategic orientations are created by relations in the system: key, long-term change processes in the land management and use – strategic challenges for regional entity and stakeholder groups cooperating with them. It is important to define the impact (positive or negative) of the processes provided for in the scenarios on the ability to tackle challenges (see Tabs. 3–5).

Analysis of the structure of the above-mentioned relationships makes it possible to distinguish two types of interventions, which may concern:

- activities having a positive impact on the ability to tackle challenges and/or
- activities which hamper (weaken) the negative impact of the processes on the ability to tackle challenges.

Strategic orientations which group such activities are established at three levels.

Strategic orientations considered at first level are placed within the "space" whose dimensions are the type of strategic challenge and the type of functional challenge (see Table 6).

On the second level strategic orientations are focused on individual types of land use (types of land: natural areas, land for economic activity, land for settlement and land for spatial integration), taking into account their location within the Upper Silesian Metropolitan Area, agglomeration areas and dispersed areas. In addition, orientations are divided in the following manner:

- area orientations strictly related to a particular type of land use; and
- horizontal orientations recommended for all types of land use (see Tables 7–9).

Strategic orientations are organised on the third level based on the typology of allocation and reallocation orientation of land management and use (see Table 10). It introduces a two-dimensional system, in which the differentiation of the level of concentration of activities and entities constitutes the first dimension, while the differentiation in the supply of land constitutes the second dimension. By combining

Table 2

Main actors in the process of implementing strategic challenges

Strategic challenge	Leading entity (decision-making)	Participants
Strengthening the metropolitan position of the region in the national and European space	REGIONAL GOVERNMENT	• European Commission/Regional Policies Commission • Public entities at the international level • Ministry of Regional Development (and other resorts) • Research, artistic and business communities at the national and international level • Local authorities of the core urban centres of the Upper Silesian Metropolitan Area • Research, artistic and business communities of the region
Greening of the regional production and infrastructural systems		• Ministry of the Environment • Ministry of Economy • Ministry of Infrastructure • Ministry of Agriculture and Rural Development • Financial institutions • Specific administration in the area of the natural heritage • Environmental associations • R&D facilities in the field of protecting and shaping the environment • Local authorities
Increase in the settlement attractiveness focused on the development of a smart region		• European Union (urban dimension under the European Cohesion Policy) • Ministry of Regional Development (National Urban Policy) • Entities creating different forms of intellectual property • Urban authorities of the core urban centres of the Upper Silesian Metropolitan Area and support centres • Network of institutions accompanying the economy based on knowledge and creativity • Multi-disciplinary professional communities in the filed of urban development and urbanisation of the region

Strategic challenge	Leading entity (decision-making)	Participants
Reducing the threat of human impact on the environment resulting from progressing urbanisation of the region		• Ministry of Regional Development • Ministry of Agriculture and Rural Development • Spatial planning and development services • at the local level • Social groups affecting the urbanisation process with their decisions • Multi-disciplinary professional communities participating in designing the urbanisation process (Association of Polish Architects (SARP), Society of Polish Town Planners (TUP), ...)
Increasing the resilience of the region to crisis and degradation of spatial structures		Labour market institutions Business environment institutions Cultural environment institutions Technology and innovation transfer institutions Institutions supporting processes of renewal (regeneration, rehabiltation, revitalisation) of industrial areas and buildings Institutions in support of social inclusion Institutions managing environmental protection facilities and buildings

Table 3

Cross-analysis of the impact of key change processes on the ability to tackle strategic challenges: Upper Silesian Metropolitan Area

CHANGE PROCESSES IN THE CONTEXT OF LAND MANAGEMENT AND USE	STRATEGIC CHALLENGES IN THE CONTEXT OF LAND MANAGEMENT AND USE				
	Reducing the threat of human impact on the environment resulting from progressing urbanisation of the region	Greening of the regional production and infrastructural systems	Strengthening the metropolitan position of the region in the national and European space	Increasing the resilience of the region to crisis and degradation of spatial structures	Increase in the settlement attractiveness focused on the development of a smart region
Shrinking of the space occupied by mines and companies of the mining industry					
Development of transport networks, including motorways, express roads and high-speed rail					
Development of communication networks in suburban and rural areas and construction of a system of agglomeration ring roads					
Sprawl of housing on land intended for non-agricultural purposes and on deforested land					
Reduction of the surface of green areas					
Biodegradation of water and soil					
Destruction of green areas					
Restoration of green areas and designed area					

CHANGE PROCESSES IN THE CONTEXT OF LAND MANAGEMENT AND USE	STRATEGIC CHALLENGES IN THE CONTEXT OF LAND MANAGEMENT AND USE					
	Reducing the threat of human impact on the environment resulting from progressing urbanisation of the region	Greening of the regional production and infrastructural systems	Strengthening the metropolitan position of the region in the national and European space	Increasing the resilience of the region to crisis and degradation of spatial structures	Increase in the settlement attractiveness focused on the development of a smart region
Maintenance of green areas and designed area					
Degradation of wooded areas					
Reduction in biological diversity of forest ecosystems					
Degradation of natural and landscape values					
Fragmentation of systems and natural habitats					
Residentialisation of areas attractive for recreational and tourism-related reasons					
Reduction of the surface area of woodland					
Environmental restoration (of watercourses and catchment areas)					

The process makes it easier to tackle the challenge

The process makes it more difficult to tackle the challenge

The process is neutral with regard to the challenge

Table 4

Cross-analysis of the impact of key change processes on the ability to tackle strategic challenges: Agglomeration areas

CHANGE PROCESSES IN THE CONTEXT OF LAND MANAGEMENT AND USE	STRATEGIC CHALLENGES IN THE CONTEXT OF LAND MANAGEMENT AND USE				
	Reducing the threat of human impact on the environment resulting from progressing urbanisation of the region	Greening of the regional production and infrastructural systems	Strengthening the metropolitan position of the region in the national and European space	Increasing the resilience of the region to crisis and degradation of spatial structures	Increase in the settlement attractiveness focused on the development of a smart region
Shrinking of the space occupied by mines and companies of the mining industry					
Development of transport networks, including motorways, express roads and high-speed rail					
Development of communication networks in suburban and rural areas and construction of a system of agglomeration ring roads					
Sprawl of housing on land intended for non-agricultural purposes and on deforested land					
Reduction of the surface of green areas					
Biodegradation of water and soil					
Destruction of green areas					
Restoration of green areas and designed area					

CHANGE PROCESSES IN THE CONTEXT OF LAND MANAGEMENT AND USE	STRATEGIC CHALLENGES IN THE CONTEXT OF LAND MANAGEMENT AND USE				
	Reducing the threat of human impact on the environment resulting from progressing urbanisation of the region	Greening of the regional production and infrastructural systems	Strengthening the metropolitan position of the region in the national and European space	Increasing the resilience of the region to crisis and degradation of spatial structures	Increase in the settlement attractiveness focused on the development of a smart region
Maintenance of green areas and designed area					
Degradation of wooded areas					
Reduction in biological diversity of forest ecosystems					
Degradation of natural and landscape values					
Fragmentation of systems and natural habitats					
Synanthropisation of natural habitats					
Residentialisation of areas attractive for recreational and tourism-related reasons					
Reduction of the surface area of woodland					
Environmental restoration (of watercourses and catchment areas)					

	The process makes it easier to tackle the challenge		The process makes it more difficult to tackle the challenge		The process is neutral with regard to the challenge

Table 5

Cross-analysis of the impact of key change processes on the ability to tackle strategic challenges: Dispersed areas

CHANGE PROCESSES IN THE CONTEXT OF LAND MANAGEMENT AND USE	STRATEGIC CHALLENGES IN THE CONTEXT OF LAND MANAGEMENT AND USE				
	Reducing the threat of human impact on the environment resulting from progressing urbanisation of the region	Greening of the regional production and infrastructural systems	Strengthening the metropolitan position of the region in the national and European space	Increasing the resilience of the region to crisis and degradation of spatial structures	Increase in the settlement attractiveness focused on the development of a smart region
Development of transport networks, including motorways, express roads and high-speed rail					
Development of communication networks in suburban and rural areas and construction of a system of agglomeration ring roads					
Sprawl of housing on land intended for non-agricultural purposes and on deforested land					
Reduction of the surface of green areas					
Biodegradation of water and soil					
Destruction of green areas					
Degradation of wooded areas					
Reduction in biological diversity of forest ecosystems					

the established dimensions, four types of strategic orientations may be identified. These include:

- intensification of use – on areas of high concentration of activities and low supply of land;
- extensiveness of use – on areas of high concentration of activities and high supply of land;
- selectivity of use – on areas of low concentration of activities and high supply of land;
- productivity of use – on areas of high concentration of activities and low supply of land;

Tables 11–13 present regional strategic orientations arranged on the basis of this typology and allocated to individual functional areas and structural units.

Table 6

Basic strategic orientations in the context of land management and use in the Śląskie Voivodeship

Type of strategic challenge	Types of functional areas		
	Upper Silesian Metropolitan Area	agglomeration areas	agricultural and tourist areas
Reducing the threat of human impact on the environment resulting from progressing urbanisation of the region	Core urban areas of high value	Developed green areas in urbanised areas	Systems of protected areas – agricultural, natural and landscape
	Concentrated residential housing in suburban areas	Substandard residential housing areas	Diversified scale of use intensity
Increasing the resilience of the region to crisis and degradation of spatial structures	Viability of spatial structures in the core zone of the metropolitan area	Immunological resilience of urban areas	Self-renewal of natural systems
	Hydrogeological capacity of intensive urbanisation area	Brownfield zones	Agricultural areas active in terms of production
Greening of the regional production and infrastructural systems	Energy efficiency of enterprises and urban infrastructure		Concentrated systems of environmental infrastructure in areas of scattered development
	Diversity of land use scales		Zoning of economic activity

Type of strategic challenge	Types of functional areas		
	Upper Silesian Metropolitan Area	agglomeration areas	agricultural and tourist areas
Increase in the settlement attractiveness focused on the development of a smart region	Regional cultural spaces		Multifunctional use of dispersed areas
	Substandard residential housing areas		High natural and landscape values of dispersed areas
Strengthening the metropolitan position of the region in the national and European space	Urbanisation axes of the region		Spatial coverage of infrastructure providing metropolitan services
	Collective systems of municipal services		Rural areas subject to marginalisation

Table 7

Strategic orientations for the Upper Silesian Metropolitan Area lands by type of their use

Types of land use	Strategic orientations	
	area orientations	horizontal orientations
Natural areas	Hydrogeological capacity of intensive urbanisation area	Core urban areas of high value Viability of spatial structures in the core zone of the metropolitan area Diversity of land use scales
Areas of economic activity	Energy efficiency of enterprises and urban infrastructure	
Settlement areas	Concentrated residential housing in suburban areas Regional cultural spaces Substandard residential housing areas Urbanisation axes of the region	
Spatial integration areas	Collective systems of municipal services	

Table 8

Strategic orientations for agglomeration area by type of their use

Types of land use	Strategic orientations	
	area orientations	horizontal orientations
Natural areas	Developed green areas in urbanised areas	Immunological resilience of urban areas Smart and creative urban spaces
Areas of economic activity	Brownfield zones Energy efficiency of enterprises and urban infrastructure Investment areas accessible through integrated systems of agglomeration ring roads	
Settlement areas	Substandard residential housing areas	
Spatial integration areas	Innovative technologies of transport services in the agglomeration area Regional transport corridors in agglomeration areas	

Table 9

Strategic orientations for dispersed areas by type of their use

Types of land use	Strategic orientations	
	Area orientations	Horizontal orientations
Natural areas	Systems of protected areas – agricultural, natural and landscape Self-renewal of natural systems High natural and landscape values of dispersed areas	Diversified scale of use intensity Multifunctional use of dispersed areas Rural areas subject to marginalisation
Areas of economic activity	Agricultural areas active in terms of production Zoning of economic activity	
Settlement areas		

Types of land use	Strategic orientations	
	Area orientations	Horizontal orientations
Spatial integration areas	Concentrated systems of environmental infrastructure in dispersed development areas Spatial coverage of infrastructure providing metropolitan services	

Table 10

Typology of orientations of land allocation and reallocation

Functional area		Supply of land	
		Low	High
Concentration of activities and entities	High	INTENSIFICATION	EXTENSIVENESS
	Low	PRODUCTIVITY	SELECTIVITY

Table 11

Orientations of allocation and reallocation in Upper Silesian Metropolitan Area

UPPER SILESIAN METROPOLITAN AREA		Supply of land	
		Low	High
Concentration of activities and entities	High	Reallocation of land management and use in core urban areas Viability of spatial structures in the core zone of the metropolitan area Hydrogeological capacity of intensive urbanisation area Energy efficiency of enterprises and urban infrastructure Diversity of land use scales Substandard residential housing areas	Concentrated residential housing in suburban areas

UPPER SILESIAN METROPOLITAN AREA		Supply of land	
		Low	High
		Diversity of land use scales Regional cultural spaces Urbanisation axes of the region Collective systems of municipal services	
	Low		

Table 12

Orientations of allocation and reallocation in agglomeration areas

AGGLOMERATION AREAS		Supply of land	
		Low	High
Concentration of activities and entities	High	Energy efficiency of enterprises and urban infrastructure Substandard residential housing housing areas Immunological resilience of urban areas	
		Developed green areas in urbanised areas Brownfield zones Substandard residential housing areas	
	Low	Investment areas accessible through integrated systems of agglomeration ring roads Smart and creative urban spaces Innovative technologies of transport services in the agglomeration area Regional transport corridors in agglomeration areas	

Table 13

Orientations of allocation and reallocation in dispersed areas

<table>
<tr><td colspan="2" rowspan="2">DISPERSED AREAS</td><td colspan="2">Supply of land</td></tr>
<tr><td>Low</td><td>High</td></tr>
<tr><td rowspan="6">Concentration of activities and entities</td><td rowspan="2">High</td><td></td><td></td></tr>
<tr><td colspan="2">Rural areas subject to marginalisation</td></tr>
<tr><td rowspan="4">Low</td><td>Diversified scale of use intensity</td><td>Concentrated systems of environmental infrastructure in dispersed development areas

Zoning of economic activity

High natural and landscape values of dispersed areas</td></tr>
<tr><td colspan="2">Systems of protected areas – agricultural, natural and landscape</td></tr>
<tr><td colspan="2">Self-renewal of natural systems</td></tr>
<tr><td colspan="2">Agricultural areas active in terms of production</td></tr>
<tr><td colspan="3">Spatial coverage of infrastructure providing metropolitan services</td></tr>
</table>

4. Strategic principles

The principles of land management and use policy originate from horizontal orientations relating to all types of land use in a given type of functional area. They may be understood as general decision-making rules (criteria) orientating the process of selection of interventions launched by regional governments and resulting in transformations of spatial structures of the voivodeship (see: Tab. 14).

Table 14

Strategic principles in land management and use policy

Functional area	Principle
Upper Silesian Metropolitan Area	**Principle** of multidimensional revitalisation **Principle** of multidimensional assessment of project innovativeness **Principle** of polycentric concentration
Agglomeration areas	**Principle** of multidimensional diversification **Principle** of multidimensional assessment of the project impact on the urban area quality
Dispersed areas	**Principle** of ensuring basic civilization standards **Principle** of evaluation of multifunctional potential of land use **Principle** of multi-criteria selection of land use scales

With regard to Upper Silesian Metropolitan Area the three following principles should be considered as the most important:

- the principle of multidimensional revitalisation concerning the real area of revitalisation processes of cities, city centres and areas of different categories, including brownfields;
- the principle of multidimensional assessment of project innovativeness linked with the area of management and selection of innovative projects leading to land allocations and reallocations;
- the principle of polycentric concentration resulting from the respect to the nature of this area (metropolis with polycentric structure); depending on the their rank cities engage into creating, initiating and implementing innovative projects.

With regard to the development of land management and use on the agglomeration areas the following principles should be the key principles:

- the principle of multidimensional diversification interpreted in a number of ways as: biodiversity (for natural areas), diversification (for areas of economic activity),

polycentrism (for settlement areas) and multi-accessibility (for spatial integration areas);
- the principle of multidimensional assessment of the project impact on the urban area quality for different types of land use and individual location decisions.

Strategic principles addressed to dispersed areas are the following:
- the principle of ensuring basic civilization standards in the scope of the provision of infrastructure, housing conditions and the quality of environment;
- the principle of evaluation of multifunctional potential of land use for the harmonious and sustainable development of natural areas, recreation areas, farm and wooded areas;
- the principle of multi-criteria selection of land use scales, compliance of land management types and forms, adaptation of land use scales to the features of the area and its surroundings.

Final conclusions

The strategic concept of regional land use policy contained in this document and verified on the basis of the example of Śląskie Voivodeship allows to recommend this policy to voivodeships with urbanisation processes in the most advanced stage under the Polish conditions. The suggestion of sharing the gained experience may in particular refer to:
- interdisciplinary cooperation of research teams integrated by applying horizontal, scenario and visionary approaches as a part of consortium project;
- logical structure of the strategic concept of the regional land use policy covering the challenges, orientations and principles;
- three fundamental perspectives applied in the process of creating the strategic concept of the policy – axiological, scenario and systemic.

The results of the foresight study, which were based on the basic categories of land use and functional areas as well as structural units creating them, showed new possibilities of shaping the territorial development in regions which integrates the area of regional planning and urban design.

References

Klasik A., Kuźnik F., Biniecki J., Szczupak B., Baron M., Ochojski A., Kamiński Z. Gasiło K., Kafka K., Bradecki T., 2011, *Mapy systemowe użytkowania terenu w województwie śląskim.* University of Economics, Katowice.

Trząski L. (Ed.), 2012, *Wyzwania zrównoważonego użytkowania terenu na przykładzie województwa śląskiego - Scenariusze 2050*. GIG, Katowice.