

Projekty regionalne i lokalne – zarządzanie ryzykiem projektu

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FUNCTIONING OF UNITED TERRITORIAL COMMUNITIES IN UKRAINE AS SMART MICROREGIONS: ADVANTAGES, CHALLENGES, RISKS, EXPECTATIONS

Objective factors show that socio-economic progress of Ukraine is much slower to compare with the majority of Central and Eastern Europe; however, hypothetic scenarios of the state confirm that transformation rates could be quite higher if the reforming is optimal.

Redistribution of powers and improvement of administration at the local level in Ukraine face the problems as administrative elites, having relations at international level, “need not” local institutions, and their imperfectness prevents seriously the access of citizens to the formation of business and self-governing organization, which is integral component of a mechanism to support systems with limited access. However, there is such a situation in the EU when adopting of rules of public-access system in terms of economic, political, and other spheres of society’s activities; thus, implementation of European Institutional Standards of regional development is vital for the successful reforming of local administrative system.

World practice demonstrates that for the majority of countries just forms of solidarity, partnership, and cooperation between authorities, science, industry, and business are the bases for system implementation of smart digital technologies providing the development of open (democratic) society, improving labour productivity, favouring economic growth, and raising living standards.

Currently, regional European policies are focused on the development of endogenic potential and mobilization of local resources, investment in innovative and human potential, raise of living standards, and resource-saving problems. Regions across the European Union are on the move on innovation. They are developing innovation strategies for Smart Specialization (RIS3). These forward-looking strategies provide a modern framework for innovation-driven economic transformation. They set out the main priorities for investments. They address opportunities and market developments to build competitive advantage – by developing and matching research and innovation strengths to business needs.

This event showcases the work to date. It will also work out how best to go forward. It needs to speed up the implementation of smart specialization. It needs bottom-up driven growth, for top European innovation priorities.

Smart regions are finding partners in other regions. They can then work together to:

- scale-up their investment efforts,
- create EU-wide value chains,
- see how to manage all this effectively.

The High-Level Event is taking the strategic decision to target three priority areas:

- Industrial Modernization,
- Energy,
- Agri-Food [Smart Regions, 2016].

Implementation of the smart technologies from a village and town or city to the whole regions is topical for Ukraine as well; the matter is that it can provide economic growth owing to energy saving, energy efficiency, and increase in productivity resulting from the use of smart technologies and the development of digital economy. Those particular problems stipulate topicality of the study.

Having no sufficient own growth potential, local territorial units gravitate toward more powerful centre forming a microregion. As a functional association, the microregion makes greater opportunities for its each member through achieving cumulative or even synergic effect resulting from common accumulation of all types of resources.

Objective of the paper is an effort to answer the question if economic growth of local territorial units in Ukraine is possible, and whether it is acceptable to transform them into Smart Microregions at the expense of activation of business, educational, and scientific and research activities to improve life of the society as well as progress of smart economy. Substantiations and systemizations involve challenges and risks arising in the process of implementation of new advanced Smart technologies at the level of local territorial units as well as forecasting of new priorities to support positive effects of future development of certain Ukrainian microregions and to neutralize negative ones.

Such scientists as P. Hall [2013], K. Hansen, L. Winther [2012], Ch. Landry [2008], T. Manzi, K. Lucas [2010], B. van Heur [2010], G. Waitt, C. Gibson [2009], K. Malik [2013], N. Zhukova [2014] devoted their studies to the cross-light of the problems of implementation of sustainable regional development principles on the basis of modern technologies in terms of local territorial-administrative European systems. Papers by R. Hambleton [2014] deal with a role of innovative models implementation in multifunctional regions. Unfortunately,

Ukrainian science does not focus extensively on the problem of implementation of smart technologies at the level of association of settlements (being smaller than towns) forming a microregion. A problem of the ability of the territorial unions to implement local policy towards formation of Smart Microregions remains unsolved. Determination of specifics concerning implementation of advanced technologies for such territorial unions is important.

A concept of smart territories, in particular “smart”, “safe”, “electronic” town/city or region, becomes more and more popular. Basing upon a microregion, it is possible to state that Smart Microregion is the territorial and business system consisting of a number of small settlements (as a rule, small towns and villages) where available resources of municipal services are used in the best way rendering high-quality services for the territory residents as well as providing maximum safety of everyday life. To do that, information and communication technology (ICT) is applied on the basis of three types of core networks: communication network, Internet, and so called Internet of Things (IoT) [Modern Concept of “smart city”, 2017].

It is reputed that basic idea of Smart Microregions functioning is the improvement of operation of all services available in settlements by means of information and communication technology application thus widening “bottle necks” and avoiding excessiveness in the process of information production and use [Smart City Model, 2017].

Fig. 12 [Department of Improving...] demonstrates basic problems to be solved by the Smart Microregions.

Policy of regional development should take into account the typology of regions as well as involve support and help in efficient combination of approaches to regional development connected with the aspects being polycentric and oriented to growth/agglomeration poles as well as back of small settlements in the provinces, in particular as for the assurance of state services. It does not mean that the interests of less developed territories should be neglected. It means certain smoothening of the differences and reasons that can distort the potential of the development of depresses or underdeveloped regions on the constant basis. It should be one the goals set clearly by regional policy as well as the aim of national strategy of regional development which will involve specific smoothening mechanisms and measures in terms of raising the possibilities for efficient resources use [Malik, 2013; Regional Development In..., 2012].

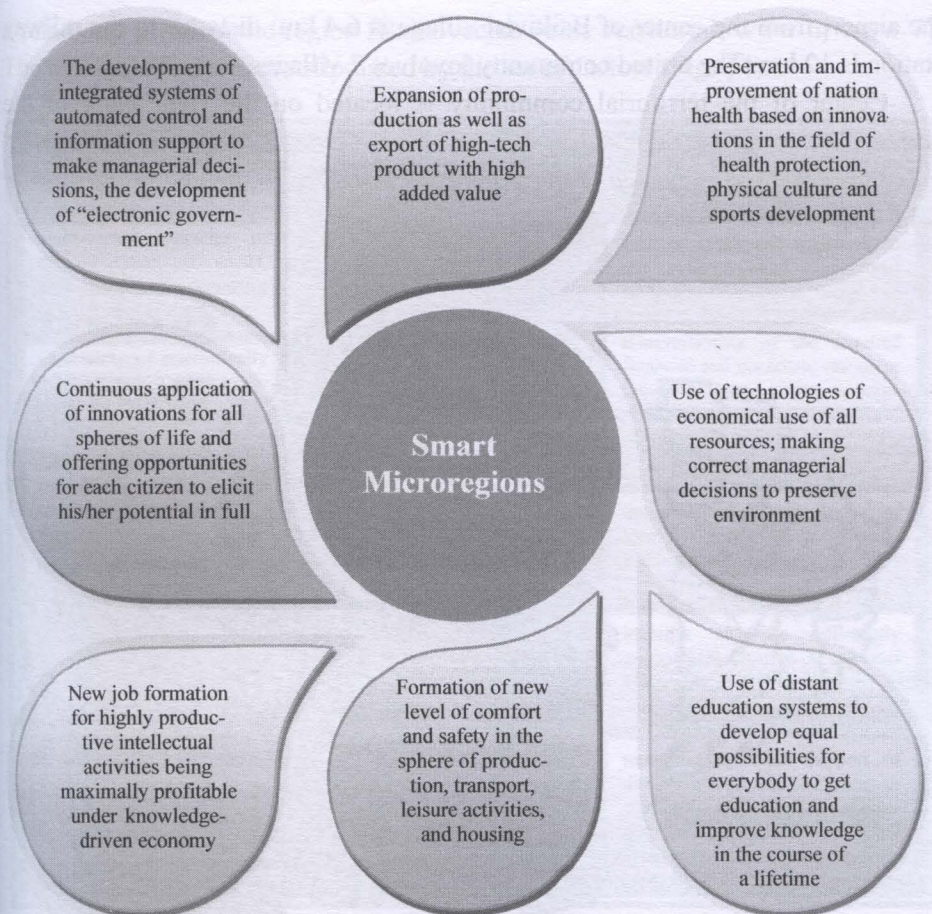


Fig. 12. Basic tasks to be solved in Smart Microregions

While relying on the abovementioned, Baikivtsi united territorial community (Baikivtsi UTC hereinafter) has been selected as the object of the study. Baikivtsi UTC is the separate territorial unit with well-defined boundaries of the lower regional level (but higher than village level) being primary economic region; in terms of further disintegration the features are lost. It is relatively integral renewable social, ecological, and economic system showing up with its economic and geographic position, complex of natural, material, labour, and financial resources characterized by insufficient level of development.

Baikivtsi united territorial community founded in October 2015 is considered now as one of the most successful communities in Ternopil region. Baikivtsi UTC occupies advantageous geographical position as it is located not far from regional center of Ternopil and transient centers of Western Ukraine. Distance to

the airport from the center of Baikivtsi village is 6.4 km; distance to the railway station is 12 km. The united community involves 7 villages.

Center of the territorial community is located on the right bank of the Gnizdechna River at the distance of 5 km from Ternopil. Settlements being involved into UTC are located at the distance of 6-18 km to the community center (Fig. 13).

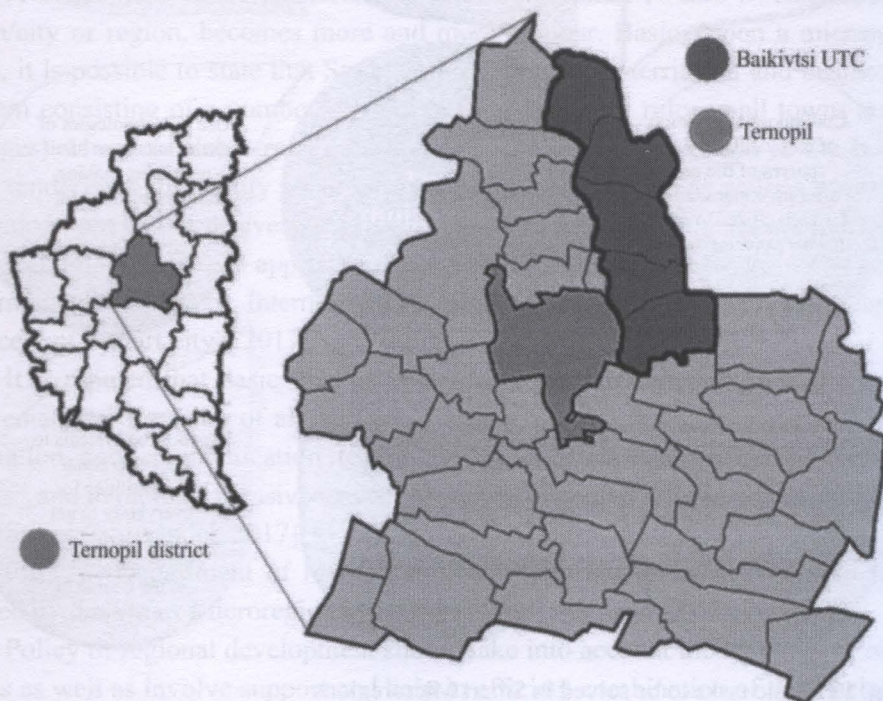


Fig. 13. Position of Baikivtsi UTC within the administrative division of Ternopil region and Ternopil district

General population is 4735 people; of them:

Village of Baikivtsi – 1765 people.

Village of Shliakhtyntsi – 650 people.

Village of Gayi Grechynski – 465 people.

Village of Lozova – 524 people.

Village of Kurnyky – 300 people.

Village of Stegnykivtsi – 485 people.

Village of Dubivtsi – 546 people.

Current state of Baikivtsi united territorial community is characterized by certain level of disbalances, asymmetry, and disproportion in development. The features make it possible to consider Baikivtsi united territorial community as

a relatively problematic region [Bajkovecjka Joint Territorial; www 6; www 7]. The available features are stipulated by the set of factors (Fig. 14).

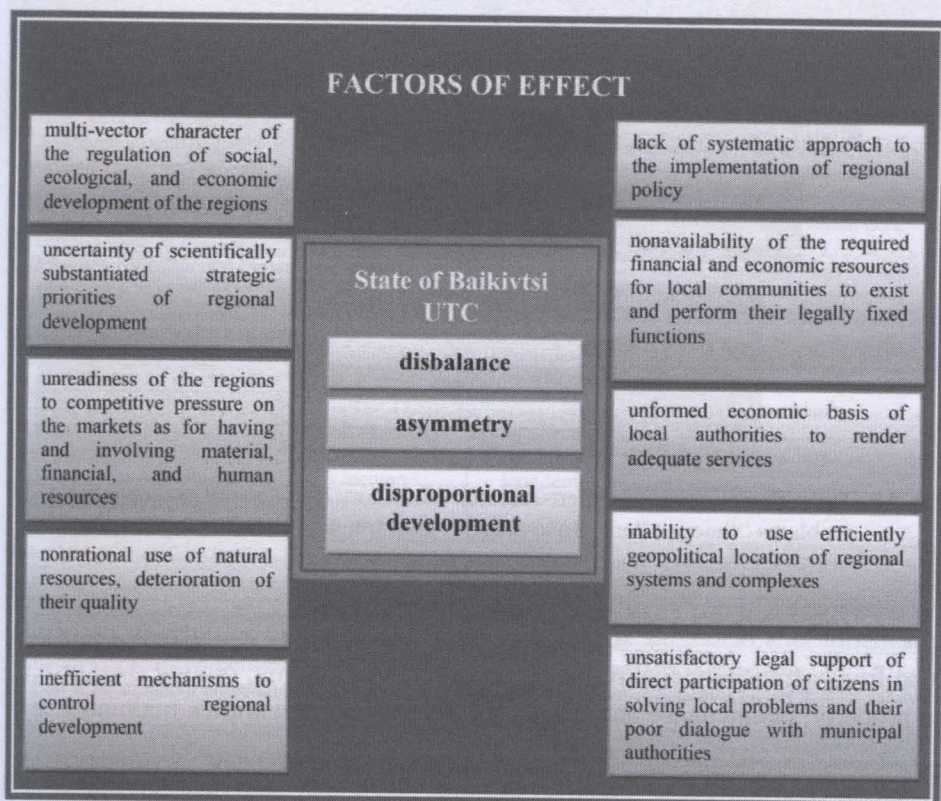


Fig. 14. Factors determining current state of Baikivtsi UTC

In the context of cooperation of local government bodies with the university scientific potential, expert and research laboratory on financial and economic problems has been founded under the “Science Park »Innovation – investment cluster Ternopil region«” Corporation.

The scientists were given the task to determine conceptual framework as for the principles of selecting the priorities and approaches to sustainable development and supporting dynamic balance between the studied microregion (as integral constituent part of meso- and macroregion) and external medium (Fig. 15) that will allow ensuring its progressive complex development in the process of implementing the Strategy of sustainable development “Ukraine – 2020” taking into account the vectors outlined in the document: development, safety, responsibility, and honour [Official Website of the President of Ukraine, 2015].

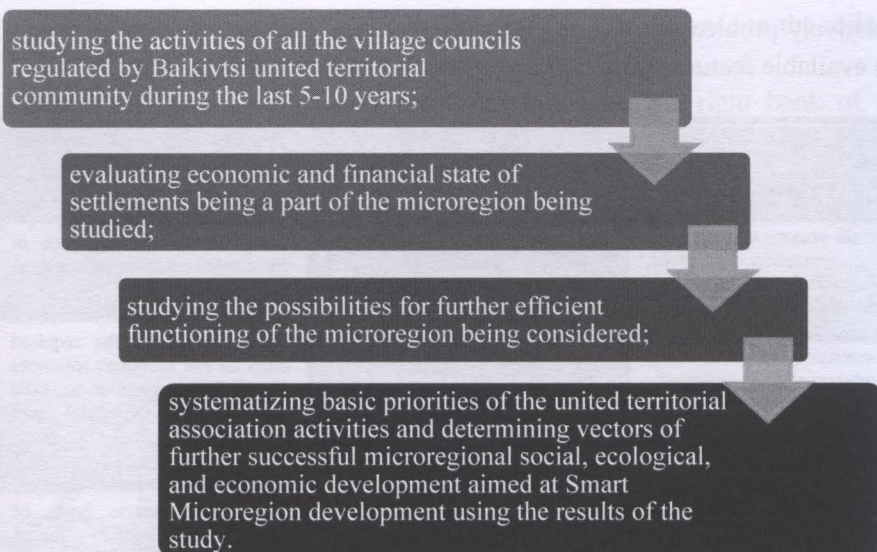


Fig. 15. Tasks for scientists of expert-research laboratory on financial and economic problems "Science Park »Innovation – investment cluster Ternopil region«"

Economic basis of Baikivtsi UTC is formed at the expense of enterprises and institutions belonging to different types of economic activity, in particular: road freight transport; fuel retailing; retailing; wholesaling; renting own or rented property; maintenance and repair of motor vehicles; complex maintenance of the facilities; manufacturing of building materials and structures; restaurant business, catering; dental practice; printing of various materials; computer services; grain (except rice) and legume growing; other types of education; manufacturing of medical and dental appliances; manufacturing of paints, lacquers and similar products; manufacturing of electric and electronic equipment for automobiles; hairdressing and beauty salon services.

Strategic analysis of the peculiarities of Baikivtsi united territorial community functioning involves study of its advantages and disadvantages forming internal environment of the community as well as detecting risks for its functioning and possibilities for its development (external environment).

Structuring of certain component of the analysis is possible owing to the construction of the corresponding SWOT matrix (Table 2).

Table 2. SWOT-analysis of Baikivtsi UTC to determine prospects of its development as Smart Microregion

ANALYSIS OF ADVANTAGES AND DISADVANTAGES OF BAIKIVTSI UTC IN TERMS OF COMPONENTS	
Natural and resource potential	
Advantages	Disadvantages
<ol style="list-style-type: none"> 1. High level of natural land fertility. 2. Available ground waters with high silver and organic substances content. 3. High concentration of water resources that may be used in various spheres of activity. 4. Developed sand deposits. 5. Moderately continental climate favouring agricultural activity. 	<ol style="list-style-type: none"> 1. Available illegal garbage dumping. 2. Small area of free land plots for business activity. 3. Lowering of the level of ground water for residential use. 4. Expansion of local contaminations within UTC territory.
Scientific and technical potential	
Advantages	Disadvantages
<ol style="list-style-type: none"> 1. High demand of business in terms of innovative technologies. 2. Available well-established relations with scientific structures. 3. Willingness of business to diversify income sources at the expense of implementation of innovative technologies. 	<ol style="list-style-type: none"> 1. Low level of funded developments of scientific and technical potential of the community. 2. Lack of fund-rising experience. 3. High level of moral obsolescence of the available long-term investment assets.
Human and labour potential	
Advantages	Disadvantages
<ol style="list-style-type: none"> 1. High percentage of employable population in the community structure. 2. Positive balance of population migration. 3. Low level of labour potential use. 	<ol style="list-style-type: none"> 1. Low level of labour resources motivation. 2. Lack of self-identification of socially responsible community members as active ones. 3. Available unemployment is higher than its natural level.
Economic potential	
Advantages	Disadvantages
<ol style="list-style-type: none"> 1. Available well-established economic relations with both regional center and other UTCs. 2. High concentration and multi-vector character of the activity areas of business entities. 3. Involvement of high-skilled labour force of Ternopil. 4. Low-cost labour for foreign enterprises. 	<ol style="list-style-type: none"> 1. Lack of alternative-energy enterprises. 2. Low purchasing power of the population. 3. Limited number of free investment land plots.
Development of infrastructure	
Advantages	Disadvantages
<ol style="list-style-type: none"> 1. Developed network of road service between UTC settlements and regional center. 2. Closeness to the railroad infrastructure and communications. 3. Functioning system of constant patrolling of UTC territory. 	<ol style="list-style-type: none"> 1. Old engineering facilities and municipal utilities. 2. Non-uniform mobile communication and Internet network cover in terms of UTC settlements. 3. Poor condition of road surface of certain UTC areas. 4. Insufficient level of lighting of common facilities within UTC territory. 5. High level of housing stock depreciation. 6. Undeveloped network of educational and art as well as sports and recreational institutions. 7. Low level of staffing and technical support for infrastructure facilities. 8. Insufficient number of people in general educational institutions.

Table 3 systematizes the analysis of external factors effect upon Baikivtsi UTC:

Table 3. Analysis of the external factors effects upon Baikivtsi UTC

ANALYSIS OF THE EXTERNAL EFFECT FACTORS IN TERMS OF BAIKIVTSI UTC	
Possibilities	Risks
<ol style="list-style-type: none"> 1. Activation of the practices of international material and technical and economic aid. 2. Expansion of the enterprises possibilities to raise credit resources. 3. Increase of the agriproduct demand level on the world market. 4. Growth in rural tourism popularity. 5. Budget financing of UTC development projects. 6. State support of the implementation of alternative energy sources. 7. Exposure to the potential alternative energy sales market. 8. Profitable exchange rate of national currency unit in terms of export operations. 9. Formation of integrated business-structures 10. Intensification of the interaction of "power-business-community" cluster components. 11. Transition of the community to the use of energy-saving technologies. 12. Development of alternative energy sources. 13. Deepening of decentralization processes in the economic sphere. 14. Increase in the number of successful UTCs becoming future equal partners in regional development. 15. Reformation of health protection system to be patient-oriented one. 16. Implementation of mass educational system and involvement of the community population into it. 17. Rational use of the community land resources both by the enterprises and its population. 18. Implementation of complete wastewater treatment system. 19. Expansion of the planted lands. 	<ol style="list-style-type: none"> 1. Instability of legal groundwork for business operations. 2. Continuation of military conflict in Ukraine. 3. Ceasing of budget-forming enterprises operation at UTC territory. 4. Uncertainty of the volumes of inter-budget transfers in the context of reverse subsidies. 5. Decrease of the level of the community social activity. 6. Disbalanced community ecosystem. 7. Complete depletion of the reserves of engineering buildings and utilities serviceability. 8. Transition of the responsibility for the community social sphere upkeeping from national to local level. 9. High ratio of unemployable-aged people per one employable person. 10. Natural disasters, hazards etc. 11. Technogenic catastrophes at the territory of Baikivtsi UTC and neighbouring communities. 12. Change in Budget and Tax Codes in favour of the centralization of financial resources in state budget. 13. Reduction of the volumes of educational and medical subsidies. 14. Change in the economic conditions of the region. 15. Community antagonism to the changes. 16. Involvement of "poor" villages into UTC.

To show the dependence between probability of implementation of the possibilities or risks and their effects, corresponding matrices have been developed to demonstrate positions of each SWOT-analysis component in the part of external factors effecting Baikivtsi UTC (Table 4).

Table 4. “Probability of implementation – effects of implementation” matrix of possibilities for Baikivtsi UTC economic environment

Probability of possibilities implementation	Effects of possibilities implementation		
	Significant (S)	Potentially significant (P)	Insignificant (I)
High (H)	Community transition to the use of energy-saving technologies.	Deepening of decentralization processes in economic sphere.	Increase in the number of successful UTCs becoming equal partners in regional development in future.
	Government support of the implementation of alternative energy sources.	Profitable exchange rate of national currency unit in terms of export operations.	
	Development of alternative energy sources.		
Medium (M)	Activation of the practices of international material and technical and economic aid.	Formation of integrated business-structures.	Increase of the agriproduct demand level on the world market.
	Intensification of the interaction of “power-business-community” cluster components.		Exposure to the potential alternative energy sales market.
Low (L)	Expansion of the enterprises possibilities to raise credit resources.	Budget financing of UTC development projects.	Growth in rural tourism popularity.

According to the formed matrix there is a great possibility to expand the projects aimed at the increase of energy-saving and energy-efficiency level. Such projects can effect considerably the community development by means of economic mechanisms of benefits distribution.

Moreover, possibility of community participation in various practices of material and technical and economic aid by international organizations is a highly potential factor to activate processes of Baikivtsi UTC transition to the level of SMART-region.

Increase of the level of credit resources availability may also effect positively upon UTC economic environment; the resources may be used to cover insufficient current and investment capital. Entrepreneurship activation is the basis of gradual progressive development of the community.

Strategy of Baikivtsi UTC development up to 2021 means sustainable economic growth based on the innovative development of multibranch economy, implementation of high living standards, preservation and development of the microregion territories.

Strategy of Baikivtsi UTC development up to 2021 involves following strategic aims (Fig. 16):

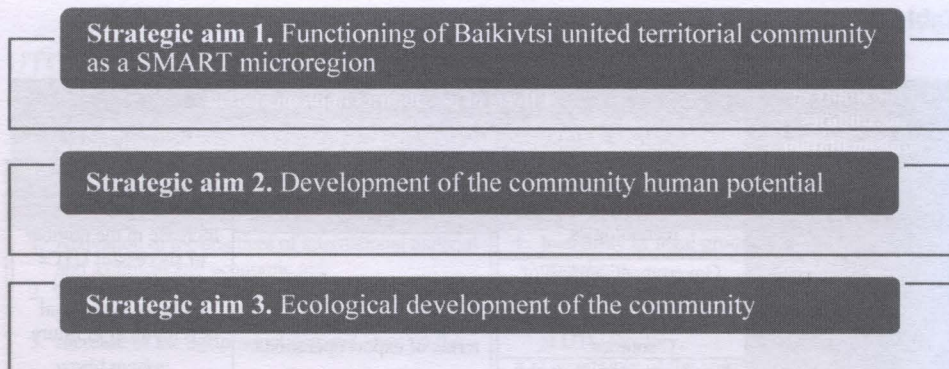


Fig. 16. System of the aims for further Baikivtsi UTC development

To accomplish and implement the aims, in particular, strategic aim 1, both operational and component aims are determined that is shown on Fig. 17.

One of strategic directions to facilitate the development of Baikivtsi UTC as a SMART region is the activation of business and economic growth based on the combination of economic, social, and ecological interests of the community in terms of maximum efficient use of resource potential to improve living standards of the population.

There are following prospective tendencies of UTC economic complex specialization: generation of alternative energy, industrial production (in particular, construction of the Industrial park), logistics (planning, purchasing, transporting, and storing of agricultural and other product types), development of the objects to service the community (recreation, entertainment, trading, catering, public services etc.) and activation of small and medium business.

Baikivtsi UTS has the prerequisites to increment industrial potential at the expense of free labour forces and available territories that may be aimed at industrial and social application.

Development of entrepreneurship, particularly, small and medium business enterprises applying advanced technologies, is the basis for further progressive development of Baikivtsi UTC and its formation as a SMART microregion (Fig. 18).

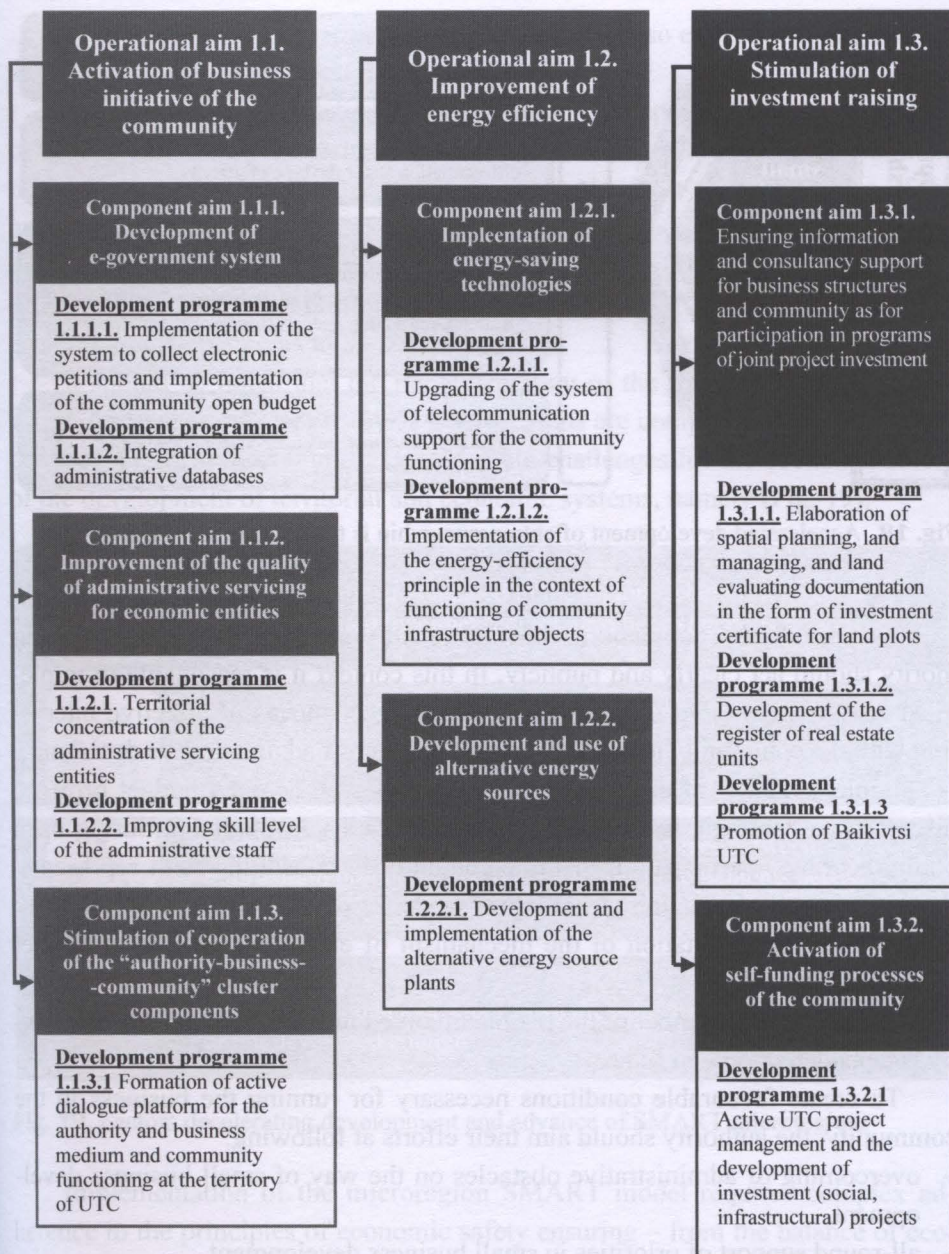


Fig. 17. Structuring of strategic aim 1 "Functioning of Baikivtsi united territorial community as a SMART microregion"

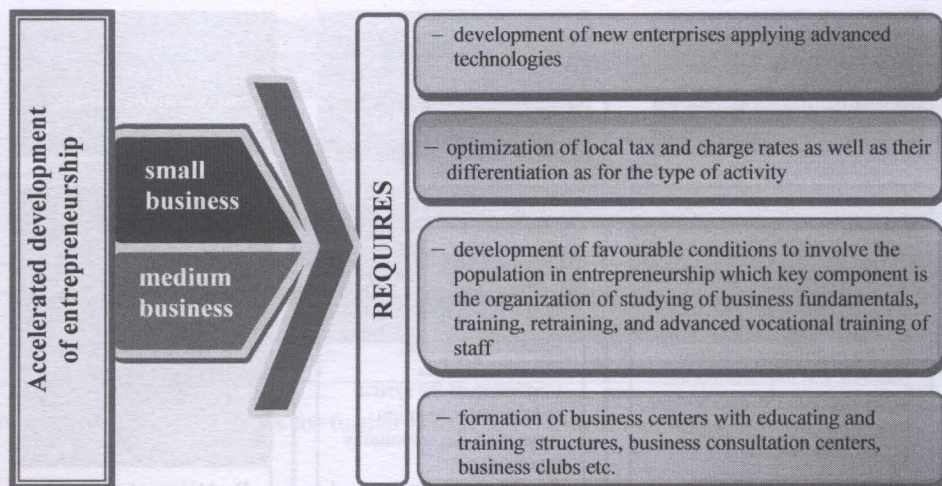


Fig. 18. Accelerated development of entrepreneurship is the basis to form Baikivtsi community as a SMART microregion

To provide the population with high-quality services, Baikivtsi UTC authority should act clearly and publicly. In this context it is reasonable to implement certain measures to improve methods and mechanisms of effective interaction with the community as well as public character of administrative decisions.

Implementation of electronic government as well as open budget projects, discussion of strategic issues concerning community development during open public hearings, participation of the community in consulting with representatives of current information technologies while forming feedback with the community and implementation of the mechanism of electronic petition are rather prospective.

Increase in the number of the people involved in the individual labour activity is considered to be in future.

To create favourable conditions necessary for running the business in the community, the authority should aim their efforts at following:

- overcoming of administrative obstacles on the way of small business development,
- all-round support of priorities in small business development,
- further development of cooperation between the authority and entrepreneurship sector of the economy,
- stimulation of business activity to reduce social tension, first of all, at the expense of job creation and self-employment of the population [Zhukova, 2014].

Further development of the entrepreneurship is also expected in international project and investment activity.

Successful implementation of the Strategy will depend on the responsibility of those being interested in it. That is why it is required to form the Committee on the Implementation Control (CIC) involving the most active members of the municipal community taking into account all the interested parties. The task of CIC will be to monitor the performance of all the operational aims (projects) of the Strategic plan as well as drafting of the proposals for UTC authorities as for the changes and supplements to the Strategy.

It should be noted that the implementation of the model of innovative development and advance of SMART microregions are complicated by the number of objective factors resulting in considerable challenges for the economic safety of the development of territorial and economic systems, namely (Fig. 19):

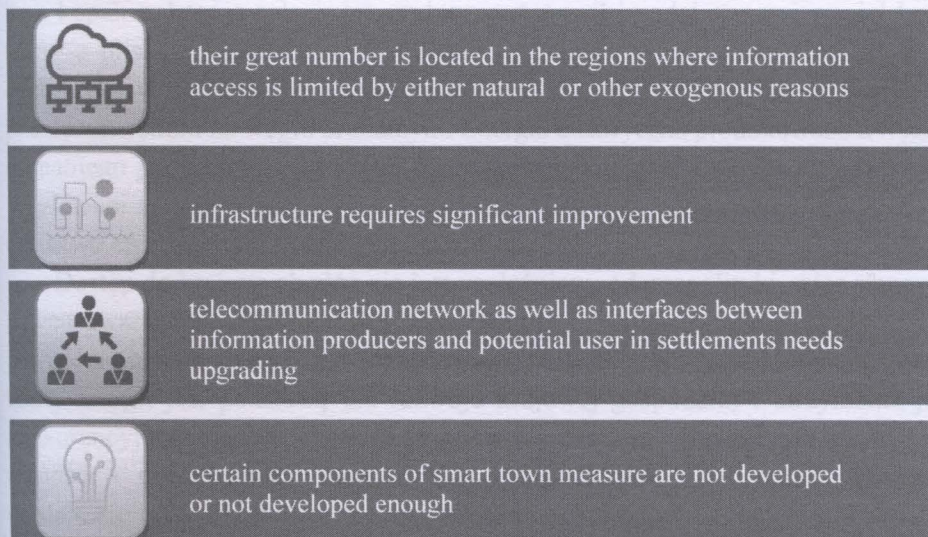


Fig. 19. Factors decelerating development and advance of SMART microregions

Implementation of the microregion SMART model requires complex adherence to the principles of economic safety ensuring – from the balance of economic interests of all the people, enterprises, communities, and regions up to integration of local economic safety with regional and state economic safety.

Taking into consideration European experience, basic priorities to implement the microregion SMART model are as follows: development of the network of “smart” buildings, implementation of electronic technologies to solve infrastructural problems, in particular, in housing and utilities sector and energy saving, implementation of the technologies of e-government and electronic doc-

ument flow, application of current information and communication means to improve social servicing etc. [Malik, 2013; Regional Development In..., 2012].

Obtaining status of sustainable, progressive SMART territories by Ukrainian microregions being able to have breakthrough in their economic development thanks to modern technologies as well as to neutralize or prevent economic instability is of vital importance for modern Ukraine.