

OPPORTUNITIES TO USE THE LOCAL COMMUNITY'S POTENTIAL TO ENSURE SUSTAINABLE REGIONAL DEVELOPMENT IN LATVIA

A conceptual illustration of sustainable development. A hand holds a small globe with a green plant growing from the top. The globe is surrounded by various icons representing different aspects of sustainability and technology, such as renewable energy, recycling, and environmental protection. The background is a soft green gradient.

RIGA TECHNICAL UNIVERSITY

Faculty of Engineering Economics and Management

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**OPPORTUNITIES TO USE THE LOCAL
COMMUNITY'S POTENTIAL TO ENSURE
SUSTAINABLE REGIONAL DEVELOPMENT
IN LATVIA**

Summary of the Doctoral Thesis

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DOCTORAL THESIS PROPOSED TO RIGA TECHNICAL UNIVERSITY FOR THE PROMOTION TO THE SCIENTIFIC DEGREE OF DOCTOR OF SCIENCE

To be granted the scientific degree of Doctor of Science (Ph. D.), the present Doctoral Thesis has been submitted for defence at the open meeting of RTU Promotion Council on 1st December 2023 at 12.00 at the Faculty of Engineering Economics and Management of Riga Technical University, 6 Kalnciema Street, Room 209.

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DECLARATION OF ACADEMIC INTEGRITY

I hereby declare that the Doctoral Thesis submitted for review to Riga Technical University for promotion to the scientific degree of Doctor of Science (Ph. D.) is my own. I confirm that this Doctoral Thesis has not been submitted to any other university for the promotion to a scientific degree.

Edgars Pudzis (signature)

Date:

The Doctoral Thesis has been prepared as a thematically united collection of scientific publications. It consists of a summary and 8 publications. Publications have been written in English. The total number of publication pages is 84 (excluding lists of bibliographical sources).

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GENERAL OVERVIEW OF THE DOCTORAL THESIS

In the era of globalisation and at the times of changes in the composition and lifestyle of population, regional development of the state is influenced by several factors, which also affect directly or indirectly further existence and development opportunities of local territorial communities. At the same time, the general development of the national economy is extremely important for the regional economic development. A significant problem has been identified in Latvia – rapid internal migration of the younger generation to some localities in Latvia as well as emigration to other countries, thus causing negative changes in the regional economic development in the mid- and long-term perspective. The problem has also a social nature, as the disbalanced economic development of the regions forms the basis for decreasing the life quality and public activity. In order to solve these problems, new and modern solutions have to be found for the development of local communities and their involvement in the regional development (both economic and social) to ensure a growing intention of the community to be involved and undertake responsibility for their community and place of residence.

Relevance of the Research

In Europe, increasingly more attention is paid to a new territorial development approach or the “bottom-up” planning, which means that increasingly more decisions regarding local development have to be taken at the lowest possible planning level – at the village level, including local communities. The village development planning becomes a means for creating strong local communities, promoting efficient usage of economic and social resources as close to the residents as possible. With account of the fact that, due to historical aspects, the Latvian society is not used to taking decisions and undertaking the responsibility for fulfilment of their own decisions, an inefficient usage of the local potential is observed in Latvia. The demographic situation and the change of lifestyle and habits should also be mentioned as significant aspects of weak development of local communities in the regions. It means that in the stagnating society circumstances and when residents do not see an opportunity to use their potential in the local community, a wide-scale migration of the regional human capital (also knowledge capital) takes place within the country to some areas of development, as well as emigration from the country, especially among young people, who in fact could form the driving force of the local community development.

Such a situation results in unbalanced development of Latvian regions, which has been identified both by local governments and by the central government in their planning documents. At present, increasingly more investments are allocated for regional development – from the state budget, budget of local governments and also external financial resources (including the EU funds). At the same time, there are concerns whether the “bottom-up” planning approach and the investment policy conducted by the central government will be able to ensure an efficient development of the local economic potential, which would also directly affect the economic and social dimensions of development in the regions.

In view of the aforementioned circumstances and considerations, within the framework of the Doctoral Thesis, the author studies both theoretical and practical aspects in the sustainable development of communities and areas in order to make proposals for promoting regional development by involving local communities and using their capital efficiently.

Scientific Hypothesis and the Research Goal

Hypothesis of the research: Village development planning as a new level of spatial planning can ensure integrated, sustainable and participatory village development in the context of regional development.

Goal of the research: To develop an integrated, sustainable and participatory planning model as a new development planning tool at the village level.

Objectives resulting from the research goal:

1. To research theoretical and regulatory aspects of village development and local community activities.
2. To research the community involvement and local development planning methods and approaches in the Baltic Sea region.
3. To research the local economy and social potential aspects and their integration opportunities in the general village planning model.
4. To develop a proposal of the community-involving village planning model and assess its influence on the sustainable regional development.
5. To formulate proposals of further opportunities for introducing the village planning level in the regional development planning.

Object of the research: Latvian regional development planning and local development.

Subject of the research: Village planning as a possible level of regional development planning in Latvia and local community involvement in it.

Research was conducted on the Baltic Sea region countries (Latvia, Estonia, Finland (the Åland Islands), Sweden).

Research question of the Doctoral Thesis: Does the development planning system in Latvia ensure a sustainable and efficient usage of economic and social resources as close to the residents as possible, strengthening local communities and their responsibility for their living space?

Research Methods and Stages

The theoretical and methodological basis of the Doctoral Thesis are general and scientific sources published in Latvia and abroad on regional development and local communities: scientific articles, databases, industry studies, data of the Central Statistical Bureau of the Republic of Latvia, regulatory enactments of the Republic of Latvia, internet resources, as well as the analysis and conclusions of the scientific work and research conducted by the author of the Thesis.

Within the framework of the research, the new knowledge and the obtained experience from the Coast4us project (No. CB627, https://www.rtu.lv/en/university/rtu-projects/open?project_number=3505) financed under the EU Interreg Central Baltic Sea Region Cross-Border Cooperation Programme, the initial concept and methodology of which has been developed by the author of this research, is to be emphasised as a significant contribution.

In the research process, generally accepted qualitative methods have been used – analysis and synthesis, induction and deduction, logically constructive, graphical and historical approach methods, information analysis and summary, comparison, as well as quantitative methods –

statistics collection and analysis and data grouping. Sociological quantitative research methods have been also used in the research – non-reactive method (document analysis and legal framework research), survey, questionnaire, and focus group method. The methods have been chosen according to the research focus – spatial development planning, which is a form of social geography.

Stages of the research process

1. Theoretical and regulatory research – identifying existence and development aspects of village and community.
2. Research on society involvement and village planning in situ and study of international experience – identifying the best practice examples and their possible usage in Latvia.
3. Identification of economic and social development factors to ensure the development of a sustainable and comprehensive planning model.
4. Summarising and analysing the obtained data and making conclusions, providing a proposal for the sustainable development planning model at a community level;
5. Observation of the village plan development and the community development changes after a trial launching.

Main regulatory aspects used in the research *Sustainable development* (Ministry of Environmental Protection and Regional Development, 2008) – a concept defined in the Report of the World Commission on Environment and Development: Our Common Future of the United Nations Organisation (also referred to as the Bruntland Commission Report, 1987) and widely used internationally since the United Nations Conference on Environment and Development (UNCED) held in Rio de Janeiro in 1992. 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”. Sustainable development is characterised by three mutually related dimensions: environmental, economic and social. It means that tough requirements for environment protection and high economic indicators do not contradict each other, that economic growth must not degrade environment and, simultaneously, a high-quality life is ensured.

- ✓ *Balanced development* (Legislation, 2008) – planned development by balancing levels and rates in the development of separate territories.
- ✓ *Territorial cohesion* (European Commission, 2008) – its task is to achieve a harmonious development of all residential areas and ensure that the residents can use resources of their respective territories in an optimal way. Cohesion is an instrument allowing to achieve a sustainable development by using advantages of the territorial diversity.

Territorial cohesion and sustainable and balanced development are planned at the regional and local levels; there is an opinion that territory development planning documents should be made with account of advantages of the specific territory – its physical, human and social capital and natural resources.

In view of the aforementioned, it can be concluded that minimum three sustainable development priorities – environment, economy, and social issues – should be evaluated and included in the content of the village development plan, and interests of the widest possible local population groups should be evaluated in order to facilitate the balanced local development.

In addition to the aforementioned principles, one of the main development priorities set for the mid- and long-term period – promotion of economic activity in Latvia – should be taken into

account. Therefore, for the purposes of ensuring the qualitative local development, it is required to research profoundly its economic growth opportunities. The author of the research has chosen to study the new growth theory (NGT) profoundly.

Main theoretical aspects used in the research

New Growth Theory

There were attempts to introduce a significant factor in economic theories such as human resources as far back as in the 1970s, and later another factor was introduced – research and development (Audretsch, Keilbach, Lehmann, 2006). During a number of years, outdated economic theories were adjusting to the real market situations. The chief factor to be understood by entrepreneurs was that the economy development was in their hands – they owned physical capital and, moreover, they owned knowledge and human resources.

The new growth theory is based on the idea that **every country or region should search for their own way of technology development**. The new growth theory is one of the first endogenous growth theories. Technological progress relevant to the specific level of knowledge regarding the environment, nature and human resources has to be reached, as adjustment of technologies of other regions means repetition of old and already used ideas, whereas modern buyers are interested only in innovative, efficient and possibly cheaper products or services. And such results can be achieved only through using of new ideas, technologies and efficient materials and management of human resources.

The new growth theory lies on the knowledge-based economy, the main resource of which is a person, well-trained, ready to obtain new knowledge, demonstrating initiative and ready to share innovative ideas (Audretsch, Keilbach, Lehmann, 2006). In view of the aforementioned, it can be concluded that the knowledge-based economy is especially important for small and medium enterprises, as they need to increase the efficiency of their operation in order to develop and function. Within the framework of this theory, the state supports small and medium enterprises, as they cannot introduce new technologies on their own, though usually this class of enterprises has a lot of innovative and new solutions, which later, by implementing the required policy, will bring much more revenue to the state than the initially invested funds.

Dimensions of Sustainable Development

The author uses the sustainability model developed and validated by G. M. Mudacumura. G. M. Mudacumura in his study “Toward a General Theory of Sustainability” (Mudacummura, Mebratu, Haque, 2006) defines six dimensions of sustainability. After studying various economic theories, the author concludes that there is no single formula for sustainable development. In order to solve the problem, the author uses six dimensions in his research, which together form the principle of sustainability:

- ✓ *Economic dimension* as a dynamic structural change process that preserves cultural values and human dignity, while exploring their interconnected relationships aimed toward improving people’s economic welfare (see Chapters 3 and 4).
- ✓ *Social dimension* – every individual has an opportunity to participate in the decision-making process, thus taking responsibility for the effect of decisions not only on the current generation, but also on the future ones (see Chapter 2).
- ✓ *Political dimension* – politicians should create the co-operation and monitoring system in which joint and responsible decisions on sustainable development are made within the framework of private and public relations (see Chapter 2).

- ✓ *Cultural dimension* – the system in which a community of people acknowledges their common shared values, knowledge and skills that contribute to achieving a common goal (see Chapter 3).
- ✓ *Ecological dimension* – to make sustainable decisions, it is necessary to consider the need to preserve the natural and cultural heritage for future generations in order to ensure their welfare (see Chapter 3).
- ✓ *Spiritual dimension* – it is assumed that a person is in the centre of activities, around whom the development takes place at the global level (see Chapter 2).

Within the model developed by G. M. Mudacumura, elements distinguished by other sustainability models such as the technological dimension and the environmental dimension are integrated into the economic dimension and the ecological dimension, respectively.

Limitations of the Research

The research was carried out between autumn 2016 and 2021.

The local economy or the local development in the research is considered to be the sustainable and comprehensive development, based on local resources, needs and own initiatives and including the specific territory (village). Whereas, **village** is the smallest planned territorial unit with the borders set and having a local community living there. Villages form the next planning level – local governments, and local governments form regions, which form the state in general. Thus, a **local community** is considered to be a group of local residents who are involved in sustainable development of their living area.

The research was conducted regarding the Baltic Sea region countries – Latvia, Estonia, Finland (the Åland Islands) and Sweden.

The research has been developed based on the results achieved in the Coast4us project financed under the EU Interreg Central Baltic Sea Region Cross-Border Cooperation Programme and the research findings.

The research encompasses the development of the Baltic Sea coastal territories, including the development of Latvian coastal villages and communities. Similarly, from the economic development aspect, more attention is paid to the Baltic Sea impact on the local economy development.

During the research, the world was overtaken by the COVID-19 pandemic, therefore, the bulk of practical observations on the village planning level introduction and changes in the communities took place remotely or through documentation, as meetings in person were not possible. However, at the same time, the pandemic created a new direction of research – the community assessment in the global pandemic circumstances.

The village development planning process does not include elements of land management, as laws and regulations already envisage other instruments for land planning – local planning. In other words, if the village development planning process leads to a need to change the land use objectives, this can be done through other instruments that are not considered within the framework of the research.

After the conducted research, the new Local Government Law has been adopted, Section 59 of which provides for the introduction of participatory budgeting in local government, including leaving it up to the local government to define the planning unit (territory), which can also be a village. After the conducted research, the elaboration of community-led local development strategies for 2021–2027 has been initiated, which will serve as instruments for the implementation of the elaborated development model.

The article “Community Participation in Village Development: The Scale of Latvia” (doi:10.1515/bjreecm-2016-0007), originally published in English in the Baltic Journal of Real Estate Economics and Construction Management, identified outdated information and therefore clarified and updated information on regional planning documents.

Thesis Statements

Europe is increasingly focusing on a new approach to spatial development, or “bottom-up” planning, which means that more and more development decisions should be taken at the lowest possible planning level – the village level, including local communities; thus, the society is becoming more active and interested in improving their environment.

The village, as the smallest territorial unit with its community, is not defined as a planning level within the spatial development planning system, but at the same time the community is taking such initiatives, for example, through community-led local development strategies.

The implementation of village level development planning must also take into account the factors surrounding the territorial community – regional development principles, conditions for sustainable development, as well as the identification and use of modern and appropriate methods of public participation. By bringing together all the external factors, it is possible to develop a proposal for a planning tool at the village level and to suggest instruments for its implementation.

It is important not only to ensure the planning process itself, but also to monitor progress in implementing the development model and making changes in the situation. This requires a comprehensive analysis of the evaluation criteria, the data used to measure them and the sources of the data.

Research Design

The author of the research has developed the research design scheme reflecting the sections of the Thesis and the main activities and findings of the research (see Fig. 1).

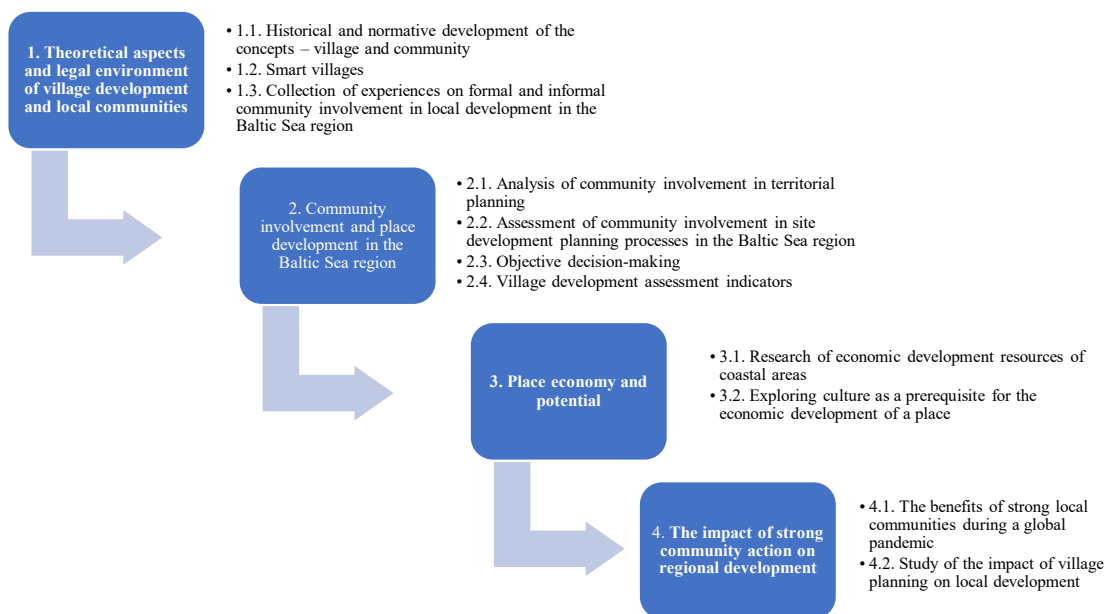


Fig. 1. **Scheme of the research design** (developed by the author).

Scientific Novelty

1. A comprehensive and inclusive local territory/community development planning model has been developed (developed within the framework of this study, taking into account the set of scientific articles and the analysis of the information contained therein and the conclusions expressed and can be viewed in the proposal section).
2. For the needs of introducing the society-involving village planning model, formal and informal territory development planning methods in the Baltic Sea region have been evaluated, based on summarising the experience of countries with old democratic traditions and of developing countries (see Sectionr 1.3 and the related scientific article).
3. To take into account the political dimension and to observe the territory planning process, when introducing the village planning community-involving model, indicators characterising sustainable development of villages and communities have been identified, emphasising the indicators to be analysed and accumulated in modern information systems (see Section 2.4 and the related scientific article).
4. In order to evaluate economic and ecological dimensions in the community development, the impact of the Baltic Sea on the development potential of economy and innovations in communities and coastal areas has been evaluated, ensuring sustainable development of economic trends (see Section 3.1 and the related scientific articles).
5. In order to evaluate the impact of strong and involved communities on the development and management of territories, research has been performed regarding the ability of communities to function and develop under unforeseen circumstances, in this particular case – in the COVID-19 pandemic conditions (see Section 4.1 and the related scientific article).

Practical Novelty

1. For the needs of introducing the community-involving village planning model, practical proposals have been developed for formal and informal community involvement forms (see Section 2.2 and the related scientific article).
2. Practical proposals have been prepared for introducing the village development planning level into the Latvian regional development planning system (developed within the framework of this study, taking into account the set of scientific articles and the analysis of the information contained therein and the conclusions expressed and can be viewed in the proposal section).
3. A practically applicable set of the village and community evaluation indicators with a list of data collection sources has been developed, allowing to evaluate the sustainability and integrity of the village and community development (see Section 2.4. and the related scientific article).

Practical Significance of the Research

This research has practical significance for the Ministry of Environmental Protection and Regional Development, planning regions and local governments, which bear practical responsibility for operation of the regional development planning system in Latvia. This research provides the summary and examples on planning methods, development indicators, as well as proposals for a new level of planning – that of villages.

This research has practical significance for village communities and financers of the village community initiatives, as, apart from the earlier provided information, the research also includes summaries on benefits and practical results achieved at the active community village level, and such data can serve as a motivation and stimulus for more new initiatives regarding development of local territories, especially following the 2021 administrative territorial reform, when the nearest support area (region) for the resident in most cases moved further away from the village resident.

Approbation of the Research Results

The results of this Doctoral Thesis have been presented at 8 international scientific conferences and have been included in 8 publications (6 publications in scientific journals, 2 in conference proceedings). The summaries and data analysis developed in the Thesis have been presented at lectures and seminars for the students of Riga Technical University and the University of Latvia. The data and results obtained in the Thesis have been approbated at the meetings of experts of territory sustainable development planning, conferences and workgroups related to the consortium established within the framework of the Coast4us project, which consists of local governments, universities, public administration institutions from Sweden, Finland (the Åland Islands), Latvia and Estonia – in total, 17 partner organisations and 9 associated partners. The Latvian consortium was formed of local governments from Carnikava Region, Saulkrasti Region (seceded during the project), Salacgrīva Region, Riga Technical University, and the Ministry of Environmental Protection and Regional Development.

Publications in scientific journals

- **Pudzis, E.,** Geipele, S., Auziņš, A., Lazdiņš, A., Butnicka, J., Krumina, K., Ciuksa, I., Kaļinka, M., Krutova, U., Gritliht, M., Prii-Pärn, M., Björklund, C., Vāvare, S., Hagström, J., Granqvist, I., Hallor, M. **Evaluation of Formal and Informal Spatial Coastal Area Planning Process in Baltic Sea Region.** International Journal of

Environmental Research and Public Health, 2021, Vol. 18, No. 9, pp. 1–20. ISSN 1660-4601. Available: doi:10.3390/ijerph18094895

- Geipele, S., Kundziņa, A., **Pudzis, E.**, Lazdiņš, A. **Evaluation of Community Involvement in Participatory Process – Lessons Learned in the Baltic Sea Region.** Architecture and Urban Planning, 2020, Vol. 16, No. 1, pp. 56–65. e-ISSN 2255-8764. Available: doi:10.2478/aup-2020-0009
- **Pudzis, E.**, Krutova, U., Geipele, S., Kaļinka, M., Auziņš, A. **Smart and Sustainable Local Communities in Global Covid-19 Pandemic Conditions.** Landscape Architecture and Art, 2020, Vol. 17, No. 17, pp. 78–88. ISSN 2255-8632. e-ISSN 2255-8640. Available: doi:10.22616/j.landarchart.2020.17.09
- Kaļinka, M., Geipele, S., **Pudzis, E.**, Lazdiņš, A., Krutova, U., Holms, J. **Indicators for the Smart Development of Villages and Neighbourhoods in Baltic Sea Coastal Areas.** Sustainability, 2020, Vol. 12, No. 13, Article number 5293. ISSN 2071-1050. Available: doi:10.3390/su12135293
- **Pudzis, E.**, Ādleris, Ā., Amoliņa, I., Geipele, S., Zeltiņš, N. **Identification of Maritime Technology Development Mechanisms in the Context of Latvian Smart Specialisation and Blue Growth.** Latvian Journal of Physics and Technical Sciences, 2018, Vol. 4, No. 1, pp. 57–69. ISSN 0868-8257. Available: doi:10.2478/lpts-2018-0029
- **Pudzis, E.**, Geipele, S., Geipele, I. **Community Participation in Village Development: The Scale of Latvia.** Baltic Journal of Real Estate Economics and Construction Management, 2016, 4, pp. 84–99. ISSN 2255-9604. e-ISSN 2255-9671. Available: doi:10.1515/bjreecm-2016-0007

Articles in conference proceedings

- **Pudzis, E.**, Geipele, S., Geipele, I. **Sea Natural Resource Potential for Blue Growth Policy Implementation in Baltic Sea Region.** IOP Conference Series: Earth and Environmental Science. Vol. 453, 5th International Conference on Green Materials and Environmental Engineering (GMEE2019), China, Guangzhou, 27–29 December 2019. Bristol: IOP Publishing, 2020, Article number 012033. ISSN 1755-1307. e-ISSN 1755-1315. Available: doi:10.1088/1755-1315/453/1/012033
- **Pudzis, E.**, Geipele, I., Geipele, S. **The Basis for Sustainable Place-based Economic Development: The Role of Cultural Heritage in Latvia, Sweden and Ukraine.** In: 2017 2nd SSR International Conference on Social Sciences and Information (SSR-SSI 2017). Advances in Social and Behavioral Sciences. Vol. 17, Russia, Moscow, 28–29 June 2017. Singapore: Singapore Management & Sports Sci. Inst.; Acad. Conf. Inst.; City Univ. Hong Kong, 2017, pp. 32–36. ISBN 978-981-11-2563-8. ISSN 2339-5133. Available: doi:10.26602/asbs.2017.17.32

Publications in conference books of abstracts

- **Pudzis, E.** **Blue Growth Actions in Coastal Municipalities in Latvia.** “Scientific Problems of Engineering Economics of Construction and Real Estate Management, Regions and Territories Development ICEREE’2019” organised within 60th International Scientific Conference of Riga Technical University: Book of Abstracts. 2019.

- Ādleris, A., Pudzis, E. **Dalīšanās ekonomika pakalpojumu pieejamības uzlabošanai reģionos/** Sharing economy for improving service availability in regions. 76th conference of University of Latvia. 2018.
- Pudzis, E., Ādleris, A., Geipele, S. **Piekrastes teritoriju ekonomiskās izaugsmes instrumenti – viedā specializācija un "Blue Growth" politika/** Economic growth tools of coastal areas – smart specialization and “Blue Growth” policy. 76th conference of University of Latvia. 2018.
- Pudzis, E., Geipele, S., Geipele, I. **Local Economic Development Planning Tools: from Subjective to Objective Ones.** Riga Technical University 58th International Scientific Conference “Scientific Conference on Economics and Entrepreneurship” (SCEE’2017): Proceedings. 2017.
- Pudzis, E., Geipele, S., Geipele, I. **Uzņēmēju iesaiste vietas ekonomikas attīstībā – iespējas vai draudi/** Involvement of entrepreneurs in local economic development – opportunities or threats. 75th conference of University of Latvia. 2017.
- Pudzis, E., Geipele, S., Geipele, I. **Community Participation in Village Development: a Case of Latvia.** 57th International Riga Technical University Scientific Conference on Economics and Entrepreneurship (SCEE’2016): Proceedings. 2016.

Table 1

Summary of Compliance of the Set of Articles with the Conditions of the Study Program

Title of the scientific article	At least 8 scientific articles must be published or accepted for publishing	At least 4 (four) articles must be original publications in journals indexed in Scopus and/or Web of Science	2 (two) of the published articles must be published in Q1 or Q2 level (SCImago Journal Rank/Journal Citation Reports) journals	The doctoral degree applicant must be the first author of at least 2 (two) articles indexed in Scopus and/or Web of Science
Community Participation in Village Development: The Scale of Latvia	X			X
Evaluation of Formal and Informal Spatial Coastal Area Planning Process in the Baltic Sea Region	X	X	X	X
Evaluation of Community Involvement in Participatory Process – Lessons Learned in the Baltic Sea Region	X	X		
Indicators for the Smart Development of Villages and Neighbourhoods in Baltic Sea Coastal Areas	X	X		

Table 1 continued

Identification of Maritime Technology Development Mechanisms in the Context of Latvian Smart Specialisation and Blue Growth	X	X		X
Sea Natural Resource Potential for the Blue Growth Policy Implementation in the Baltic Sea Region	X	X		X
The Basis for Sustainable Place-based Economic Development: The Role of Cultural Heritage in Latvia, Sweden and Ukraine	X	X		X
Smart and Sustainable Local Communities in Global Covid-19 Pandemic Conditions	X	X	X	X
TOTAL:	8 (conform)	7 (conform)	2 (conform)	6 (conform)

Table 2

Evaluation of the Author's Personal Contribution

Title of the scientific article	Number of pages in the work	Personal contribution (pages)	Characteristics of the contribution
Community Participation in Village Development: The Scale of Latvia	16	16	Self-assessment – 16 pages, 95 %, author of the full article with the support of supervisors in the conceptualisation of the publication
Evaluation of Formal and Informal Spatial Coastal Area Planning Process in the Baltic Sea Region	20	12	Self-assessment – 12 pages, 60 %, publication guidelines, methodology, analysis part, validation, text creation, compilation and systematisation, coordination of the article with reviewers
Evaluation of Community Involvement in Participatory Process – Lessons Learned in the Baltic Sea Region	10	5	Corresponding author's assessment – 5 pages, 62 %, drafter of publication guidelines, methodology and original manuscript
Indicators for the Smart Development of Villages and Neighbourhoods in Baltic Sea Coastal Areas	13	8	Corresponding author's assessment – 8 pages, 66 %, drafter of publication guidelines, methodology and original manuscript
Identification of Maritime Technology Development Mechanisms in the Context of Latvian Smart Specialisation and Blue Growth	12	8	Self-assessment – 8 pages, 70 %, publication guidelines, methodology, analysis part, validation, text creation, compilation and systematisation, coordination of the article with reviewers
Sea Natural Resource Potential for Blue Growth Policy Implementation in the Baltic Sea Region	6	6	Self-assessment – 6 pages, 95 %, author of the article with the support of supervisors in the conceptualisation of the publication
The Basis for Sustainable Place-based Economic Development: The Role of Cultural Heritage in Latvia, Sweden and Ukraine	5	5	Self-assessment – 5 pages, 95 %, author of the article with the support of supervisors in the conceptualisation of the publication
Smart and Sustainable Local Communities in Global Covid-19 Pandemic Conditions	11	6	Self-assessment – 6 pages, 50 %, publication methodology, analysis part, validation, text creation, coordination of the article with reviewers
KOPĀ:		66 (conform)	

INTRODUCTION

The Doctoral Thesis has been developed to provide a summary on a set of scientific articles developed by the author and the research developed within its framework. In the set of scientific articles, the author has substantiated the course of the research, interconnection of separate articles, and the thematic unity and sequence of the research.

The Doctoral Thesis consists of four chapters which confirm the set hypothesis mutually and sequentially. The goal set by the research has been achieved and the objectives defined in the general report part of the Doctoral Thesis have been fulfilled.

The first chapter of the research evaluates theoretical aspects and legal environment of the village development and local community activities, including the description of concepts such as *village*, *community* and *smart village*, their historical development and modern meaning. It also summarises and analyses the experience of formal and informal involvement of the local community in the area development, including the “bottom-up” planning approach.

In view of the fact that the research is based on the sustainable development theory, the second and third chapters of the Doctoral Thesis provide a research on sustainable dimensions and their integration in the comprehensive and inclusive development of the area.

The second chapter studies novelties related to social, political, cultural and mental dimensions, and the third section – economic and ecological dimensions. The process of involving a local community is analysed, with examples of successful involvement of the community, and the village development assessment indicators are developed that allow ensuring not only the local planning process, but also the development assessment process.

The third chapter determines economic development opportunities for coastal territories, evaluating them from the smart specialisation and the Blue Growth policy viewpoint. In addition, culture is studied as the economic activity precondition in the coastal areas, as exactly cultural and historical heritage of such territories occupies a significant position in the development of communities.

The fourth chapter of the Doctoral Thesis is devoted to approbation of the results; the significance of strong communities in the global pandemic conditions has been identified and the development of the Carnikava Region Garupe Village plan and activity of its community and the results of the plan introduction have been analysed.

At the end of the research, the author provides 11 conclusions, expresses 5 proposals and submits a proposal for the local territory/community development planning model.

The Paper has 65 pages, 69 sources of reference, 7 tables and 10 figures.

1. Theoretical Aspects and Legal Environment of Village Development and Local Communities

In this chapter, in order to fulfil the research objective “to research theoretical and regulatory aspects of village development and local community activities”, the author has evaluated theoretical and legal aspects of villages, communities, smart villages, and planning systems regarding sustainable development planning conditions that form the foundation for further elaboration of the village development planning model.

Experience of formal and informal planning methods in the Baltic Sea region is also summarised and analysed in this chapter, in order not only to fulfil the research objective regarding summarising of the society involvement and local development methods, but also to provide a wider vision on the society involvement opportunities in Latvia, which is based on experience of other countries.

1.1. Historical and Normative Development of the Concepts “Village” and “Community”

In Latvia, in accordance with the Law on Administrative Territories and Populated Areas (Legislation, 2011), a village is one of the three types of inhabited areas (along with cities and farmsteads). The status of a village shall be granted and revoked by a municipality council, based on the local government territorial planning in which the village border is defined and the need for developing a village is justified. The status of a village may be granted to such section of a municipality territory in which concentrated building is present (or is planned), people are living permanently, and the appropriate infrastructure has been developed. At the same time, the Law stipulates that the status of a village may also be granted to a section of district territory in which concentrated building is present or is planned, people are living permanently, and the appropriate infrastructure has been developed.

Jurgis Kavacs in his article “Village Concept Historical Development” (Kavacs, 2015) has stated that nowadays, a village is a certain rural area and it is not an administrative territorial unit as it was defined from 1945 to 1992. However, to separate the inhabited areas of administrative territorial units is not always easy because both have a number of similar characteristics.

An inhabited area is a long-term, permanent or seasonal human settlement where the necessary material living conditions are created (housing and communications). The fact that rural areas are different by their structure is well known. However, a unified and generally accepted classification of rural settlements has not been made yet. It should be noted that in statistics during the 1930s, the concept of rural village was used to refer to an individual inhabited building.

Historically, in the Latvian Conversation Dictionary (Latviešu Konversācijas vārdnīca, 1928), a “village” was defined as one of the several types of inhabited rural areas, whereas in the editions of the Soviet times, a “village” was an administrative territorial unit.

Residential area of the community can also be a confined territory, for example, village or environs of a coastal city or town, and include a community living in this territory. The main elements of the community are:

- ✓ area, sense of area that pertains to a geographical unit, starting from the environs and up to the city, or a certain environment around which people are gathering (for instance, a church or a recreational centre);
- ✓ participation, common interests and perspectives pertaining to common interests and values, which can cross the geographic borders;

- ✓ joint action, feeling of coordination and identity, including informal joint activities, for example, assignment of tasks to be performed and assistance to neighbours; however, such activities have not always been set on purpose, in order to create the community cohesion;
- ✓ social links, which include relations, creating a continuous feeling of cohesion;
- ✓ diversity that mostly pertains not to ethnic groups, but to social complexity in communities, where several communities co-exist alongside (Holms et al., 2018). The community status proceeds from a possibility of self-organisation for certain goals in coastal areas.

M. Ušča in her Doctoral Thesis “Territorial Community Formation in Riga” (Ušča, 2013) has considered territorial communities: “If the community-unifying factor is a common area, one can speak of territorial communities in the city. Thus, territorial communities are primarily characterised by a common territory and a certain attitude towards this area. In general, in human geography, the idea of urban communities is used as a specific category relating to one of the two signs: geographically or administratively united groups of people; common characteristics (e.g., interests, identity, etc.), which bring together individuals in one community.

The urban sociologist Margaret Kusenbah (Kusenbach, 2008) acknowledges that territorial communities can be defined in various ways – they may be different in size, structure, and scale; however, it is possible to distinguish three recognised and fundamental features that characterise all of them:

- definite location (or common territory);
- common individual links (common interest, identity, etc.);
- social interaction of individuals.

Definite location (or common territory). One of the characteristic features of territorial communities is a common territory. Unlike interest, ethnic, etc. communities, the common area is the basis of territorial communities. The common area, first of all, can mean a common residence and related features – belonging to, identification with the definite location; secondly, the common use, care and responsibility of this area. Of course, not all the inhabitants of the territory are characterised by the above-mentioned features.

Common individual links. The feeling of connection with other inhabitants, described in various fields of science using such terms as “social capital”, “social support”, “neighbourhood cohesion”, “place attachment”, “sense of belongingness” and “sense of community”, as well as the feeling that an individual is part of a community, is one of the most important basic needs of a human. Citizen affinities may be based on shared interests, common problem solving, etc.; they may be associated with processes in the common space, as well as with processes that are not directly related to a specific location.

Social interaction of individuals. In the context of territorial community formation, the basis of interaction is everyday neighbouring, starting with polite greeting and eventually ending with close friendship. The basis of interaction is communication.

David Thomas (Thomas, 1991), who has experience in the formation of communities and is a key executive director at the Community Development Foundation, offers his vision of the territorial community (place-based community) establishment. He underlines the great role of resources and processes that form viable or communication communities: a) which are formed to bring inhabitants together not to alienate from each other; b) where there are social communication stimulation options/mechanisms – cafes, churches, stores, pubs, community centres, etc.; c) where

there are regular activities that stimulate social interaction, for example, taking children to school on foot, and not by car; d) where there is a different “live” social and recreational network, as well as a network based on mutual support; e) where there are various active types of organisations with different aims that bring people together as well as define and represent their ideas and problems; f) that allow inhabitants to undertake social roles outside their households – roles that satisfy these inhabitants and serve as the basis for other inhabitants. These are the aspects that should be taken into consideration when analysing the creation of communities in a certain neighbourhood.”

Towards an even deeper understanding of community development, Thomas has created the community interaction scale (see Fig. 2).

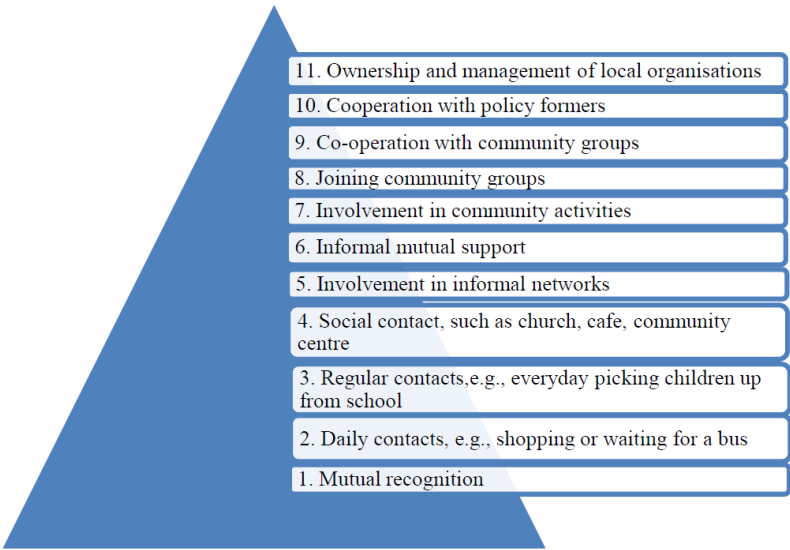


Fig. 2. Community interaction scale (developed by the author using (Ušča, 2013)).

The scale consists of grades distinguishing between lower, regular and obvious community interaction aspects (from 1 to 6) and higher/more complex and formal organisational aspects of community life (from 7 to 11).

Taking into consideration that historically in Latvia the villages have not formed as built-up areas but, among other things, are based on interpersonal ties and needs, and in theory, such territorial limitation forms a community, further in the present study the author will examine the integrated development of villages and communities or territorial communities that have a clearly defined operational limitation.

Community development is an important stage of spatial planning, which has been thoroughly studied in the UK (Turner, 2009). It has been examined less extensively in the USA (Vitiello & Wolf-Powers, 2014), Australia (Campbell & Hunt, 2013), Ireland (Gaynor, 2011), and in such developing countries as Cameroon (Alasah, 2011), Indonesia (Kenny, Fanany, & Rahayu, 2013), China (Chan, 2013), etc.

After the collapse of the Soviet Union, particular attention was devoted to the communities in the post-Soviet countries, as well as to the study of their development principles, for example, Georgia (Vasadze & Datuashvili, 2011), Ukraine (Williams, Nadin, Rodgers, & Round, 2012) and Lithuania (Macken-Walsh, 2009) were studied. There are only a few studies that deal with the development of the Latvian communities.

Community-led local development (CLLD) is a term used by the European Commission to describe the approach that overturns the traditional “top-down” development policy. In the community-led local development case, local residents undertake the initiative and establish local partnerships, which are planning and implementing the integrated development strategy. The strategy is anticipated to create a social, environmental and economic force or “assets” of the community, and not just simply to receive indemnification for the existing problems. For this, a partnership receives a long-term financing and decides itself how to spend funds.

CLLD is a special instrument to be used on the sub-regional level, which supplements other development supports at the local level. CLLD can mobilise and involve local communities and organisations in reaching goals of the Europe 2020 strategy to facilitate smart, sustainable and inclusive growth, implement territorial cohesion and achieve the specific policy goals.

In general, this approach has developed from the LEADER, EQUAL, URBACT and other EU initiatives, which up to now have had a branch vision and, correspondingly, financing, though forming the multifund and multipolicy approach.

Spatial Development Planning Law (Legislation (2011/1):

- ✓ principle of sustainability – development of a territory is planned in order to preserve and form a good environmental quality, balanced economic development, rational use of natural, human and material resources, development of the natural and cultural heritage for the present and next generations;
- ✓ development programme – a mid-term spatial development planning document laying down mid-term priorities and the set of measures for the implementation of the long-term strategic goals set out in the planning region or local government development strategy;
- ✓ sustainable development strategy – a long-term spatial development planning document laying down the vision, objectives, and priorities for the long-term development of a planning region or local government and its spatial development perspective;
- ✓ local government spatial plan – a local government long-term spatial development planning document laying down the requirements for land use and building, including functional zoning, public infrastructure, regulations regarding land use and building, as well as other conditions for land use, and which is developed for an administrative territory or a part thereof.

Spatial planning, when developing mutually coordinated planning documents, is implemented at the following planning levels:

- ✓ national level – Latvian sustainable development strategy, which includes the spatial development perspective;
- ✓ planning region level – sustainable development strategy and development program of the planning region;
- ✓ local government level – the spatial plan and the detailed plan of the local government set opportunities, directions and restrictions of the local government territorial development, graphically depict the current and planned (allowed) usage of the local government territory, and the requirements, territories and objects set in the detailed higher-level spatial plans.

In the Republic of Latvia, all regulations are issued in a hierarchical system; for this reason, the highest documents are laws, in addition to which regulations by the Cabinet of Ministers are issued, but they are interpreted by methodical recommendations.

In the Republic of Latvia, the territory development planning is regulated by the Territory Development Planning Law (Legislation, 2011/1), which aims to encourage and ensure a balanced and sustainable development of the country, considering all the features and possibilities of the whole national territory and its separate parts to reduce disparity between them, as well as to maintain and develop the natural and cultural characteristics and the development potential of each area. The Law puts forward the following requirements for the development planning documents at local authorities:

- The regional development shall be implemented in conformity with the following mutually co-ordinated state and regional development planning documents: National Development Plan, National Spatial Plan, Regional Policy Guidelines, sectoral development programmes, development programmes and spatial plans of planning regions, development programmes and spatial plans of local governments, development programmes and spatial plans of territorial local governments.
- The development programme of local governments is a long-term (twelve years) regional policy planning document, which specifies the development priorities of the relevant district local government. The development programme of a planning region shall be developed and implemented in accordance with the territorial spatial plan of the given district local government.

The general provisions and economic basis for the activities of the local governments of Latvia during the development of this study were set out by the Law “On Local Governments” (Legislation, 1994), which also stipulates the competences of local governments, councils and their institutions, as well as the rights and responsibilities of the chairpersons of city or municipality councils, the relations of local governments with the Cabinet of Ministers and ministries, as well as the general provisions for relations among local governments. The Law puts forward the following requirements for the development planning documents at local authorities:

- a local government shall develop the local municipality development programme and spatial plan, local plans, detailed plans and thematic plans and ensure the implementation of the territorial development programme as well as the territorial planning administrative supervision;
- the council has the right to approve the local municipality territorial development programme and spatial plan.

In the Republic of Latvia, regional development planning is regulated by the Development Planning System Law (Legislation, 2008), which aims to promote a sustainable and stable development of the local government, as well as improve the quality of life of inhabitants by determining the development planning system. The Law puts forward the following requirements for the development planning documents at local authorities:

- The objectives and the results to be reached in the field of relevant policy or territory shall be proposed, the determined problems shall be described and their solutions shall be provided, the possible impact of these solutions shall be evaluated, as well as further action necessary for the implementation of the policy and assessment of results shall be planned in the development planning document.

- Development shall be planned for long term (up to 25 years), medium term (up to seven years) and short term (up to three years), and the planning documents shall be drawn up for taking a conceptual decision or definition of the national position.
- The development planning documents of local level are subordinated hierarchically to the regional and national level development planning documents. The development planning documents of regional level are subordinated hierarchically to the national level development planning documents.

Based on the information provided in this chapter, the author concludes that in Latvia there are enough laws that regulate the enforcement of the previously viewed principles needed for a sustainable and balanced development – society involvement, control mechanisms and mutual commitment of documents. At the same time, it has been ascertained that in Latvia the development planning system does not provide a lower level of planning, i.e., at the level of municipality, and the involvement of society is mostly envisaged in a formal way.

The parts included in this section were first published in English by the *Baltic Journal of Real Estate Economics and Construction Management*, article *Community Participation in Village Development: The Scale of Latvia* (doi:10.1515/bjreecm-2016-0007).

1.2. Smart Villages

Smart villages are communities in rural areas that use innovative solutions to improve their resilience, building on local strengths and opportunities. They rely on a participatory approach to develop and implement their strategy to improve their economic, social and/or environmental conditions, in particular by mobilising solutions offered by digital technologies. Smart villages benefit from cooperation and alliances with other communities and actors in rural and urban areas. The initiation and implementation of smart village strategies may build on existing initiatives and can be funded by a variety of public and private sources. Communities in rural areas can include one or several human settlements without any restrictions regarding the administrative boundaries or the number of inhabitants. As regards eligibility conditions for support, the EU Member States may use definitions of rural areas as provided for by the OECD, EUROSTAT, or other definitions.

A participatory approach means active participation of the local community in the drawing up and decision-making regarding the smart village strategy. During the implementation phase, the participatory approach will ensure that the needs for capacity building and the training of people are properly addressed. Digital technologies include, for example, information and communication technologies, the exploitation of big data or innovations related to the use of the Internet of Things (IoT). They act as a lever to enable smart villages to become more agile, make better use of their resources and improve the attractiveness of rural areas and the quality of life of rural residents. The use of digital technologies is not a precondition for becoming a smart village. Where possible, high-speed broadband will facilitate the deployment of digital solutions. Smart village strategies respond to the challenges and needs of their territory by building on their local strengths and assets. Strategies must determine short-, medium- and long-term goals. Progress must be measurable through performance indicators that will be set in a roadmap. These roadmaps should be reviewed at regular intervals to allow for continuous improvement. Strategies may aim, for example: to improve access to services (in various fields such as health, training or transport), to enhance business opportunities and create jobs, to the development of short food supply chains and farming

practices, to the development of renewable energies, to the development of a circular economy, to better exploitation of natural resources, to adapt to climate change, to preserve the environment and biodiversity, to a better valorisation of the cultural heritage for a greater tourist attractiveness, etc. (Thomas, 1991).

On 22 May 2018, EU Commissioner Phil Hogan said, “*Smart villages are all about making different policies work together to find better, smarter ways to promote holistic rural development. It is about harnessing existing and emerging technologies and social innovations to add value to the lives of our citizens. It is about giving villages the tools to address their own challenges while also making a contribution to the bigger challenges facing society as a whole* (Smart Villages, 2020).

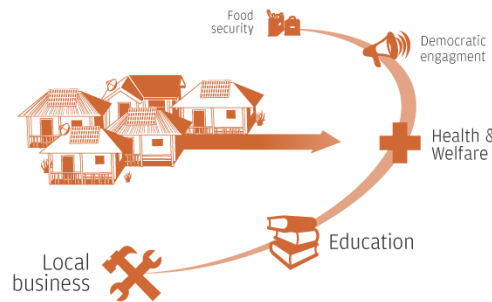


Fig. 3. The concept of a smart village (New thinking, 2020).

Smart village is an advanced concept of off-grid community where every component of the basic human rights relates to smart technology. Renewable and sustainable energy service performs as a facilitator for development in the smart village concept. Figure 4 shows the smart services available in a smart village (Haider, Siddique & Alam, 2018).

Smart villages are rural areas and communities that use their existing strengths and values, as well as develop new opportunities to create new added value. In smart villages, traditional things and new approaches are sought and improved through digital communication technologies, innovation and better application of knowledge for the benefit of citizens (European Comission, 2020).

Smart villages are based on people, i.e., rural communities that take the initiative to find practical solutions both to solve existing problems and to make the most of new opportunities for the transformation of rural areas in the future (European Comission, 2020/1).

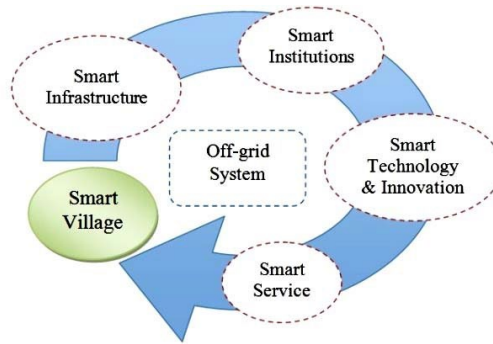


Fig. 4. The concept of a smart village (Haider, Siddique and Alam, 2018).

The term “smart” implies:

- ✓ The use of digital technology where it is applicable, not because it is modern or up-to-date. Smart villages often use the added value of digital technologies, but this is only one of the tools to improve performance.
- ✓ Thinking outside the village. Some of the current smart village practices stop working in the village area, but there are also some that include the surrounding rural area, village groups, small towns and cooperation with large cities.
- ✓ New cooperation and the development of new forms of cooperation – between farmers and other entrepreneurs in rural areas, between municipalities, the private and public sectors, cooperation takes place from the bottom up and from the top down.
- ✓ Care for oneself. There is no single common model or solution to the smart village approach – the main emphasis is on local people and their ability to use local resources, apply their knowledge and take the initiative.

It is clear from these smart village cases that a community cannot rely on internal resources in a crisis without going beyond villages or community borders. There is a need for a link that ensures cooperation with neighbouring communities and municipal and state institutions (see Fig. 4).

The parts included in this section were first published in English in journal *Landscape Architecture and Art*, article *Smart and Sustainable Local Communities in Global Covid-19 Pandemic Conditions* (doi:10.22616/j.landarchart.2020.17.09).

1.3. Collection of Experiences in Formal and Informal Community Involvement in Local Development in the Baltic Sea Region

Continuing the analysis, it is assessed whether a formal approach to the area planning is sufficient nowadays to ensure a long-term development of the area. This conceptual issue is significant in order to provide a ground for proposals on introducing a new planning level and an access to it.

According to the assessment of different spatial planning levels in Latvia, Estonia, Åland Islands of Finland, and Sweden, the involved experts prepared the reports. They summarized the

results on mobilisation, planning, implementation, and monitoring ranked by the municipal role in planning, strengths, and weaknesses.

Comparing the reports by the Latvian, Estonian, Finnish, and Swedish experts, there is evidence that the spatial planning process is associated with a hierarchical structure. Long-term development documents at national, regional, and municipal levels (keywords: sustainability, efficiency, resources) provide the main guidelines for site maintenance and use.

When analysing the involvement of local community (specific coastal territories in each country case) at lowest and closest level for an individual, it has been concluded that at the beginning of the planning process (mobilisation), municipalities in all participating countries invite citizens and stakeholders (informal groups) to get involved in the planning process due to the dissemination of information and discussions. All countries' experts emphasized that the information is sufficient for the initial planning process. The weakness of the initial planning phase lies in the lack of communication with informal population groups.

In the spatial planning process, the local authorities have an information base (legislation, statistics, reports, opinions) to carry out the planning work. Experts emphasized that there is insufficient information about specific places and objects, and their functionality.

There is information that in Åland, the autonomy function allows for extensive use of information. Informal groups do not participate in the planning process (document preparation), but they participate in the discussion of plans that have already been developed before they enter into force.

The plan is implemented by the municipality, following the developed plan, and granted funding. Both the plan as a planning tool and the implementation process are public. As a weakness, experts mentioned the impact of external factors that can change the course of the project, including various communication barriers that can cause controversy.

Experts did not mention the role of informal groups in the implementation phase of the plan. During the control phase, the municipalities monitor the implementation of the plan and provide reports following the established regulatory framework. At this stage, the availability and operability of the information are important factors. Experts mentioned that the process was difficult to monitor, but did not mention the role of informal groups in the control process.

To better understand the benefits and challenging issues of the project Coast4us implementation process, an expert survey of responsible persons involved in the project was conducted. The essence of this survey was to assess the impact of the formal and informal spatial planning process in the specific coastal conditions, considering community involvement. The significance scale from 1 (insignificant) to 10 (significant) was used in the survey.

Significance averages range from 4.7 to 7.7, which is quite wide. In the mobilisation phase, the significance indicators are closer (6.0–7.3), which can be explained by the great importance of village development and sustainability. At the planning stage, there is a larger range of indicators of significance (5.4–7.7), which can be explained by the ambiguity of the goal definition and planning process (the coordination of opinions). The averages of the significance of the implementation phase are slightly scattered (5.6–6.8), which can be explained by the compromise reached in the planning process, but more in-depth research would be needed. In the monitoring phase, which is closely related to the implementation phase, the significance indicators of the

obtained results are scattered (4.7–6.9), which can be explained by the evaluation of the process and the result.

The results of the study show that mobilisation, planning, implementation, and monitoring binds to Eriksson's model of collaboration (Eriksson, 2018). A successful project is based on a concerted goal that is in the interest of the parties involved (central government, local government, and informal groups). Collaboration in planning is essential to achieve the goal, as citizens are often more aware of the situation and they will be the ones who will use the results. Stakeholders' participation in project implementation should be ensured as it avoids conflict situations, but monitoring ensures more efficient use of resources and a result of much higher quality. The members of local communities can be mobilised if their goals are clear and these goals meet their interests. The spatial planning process should be open, involving and listening to the local community, which in this study were coastal communities. In the process of implementing the plan, the local community must be interested, and it will bring good results (and aid in future cooperation). A good result is achieved by monitoring the progress of the project and efficient use of resources, and all of this is confirmed by the informal groups.

In addition to the aforementioned and conducted comparative research, there is a clear need to comply with the national regulatory framework in the process of community engagement while creating new and modern solutions for informal and motivated public involvement in the spatial planning process. At the same time, the study exploring different countries with the unifying object of the Baltic Sea highlights the specifics of coastal area spatial planning. Therefore, regarding the usual sustainability factors, particular attention should be paid to natural and environmental values, conservation, and development of ecosystems, etc. These specific features, as well as the changing and rapid growth of society in the direction of community development, offer new directions of research for both academics and scientists.

The parts included in this section were first published in English in *International Journal of Environmental Research and Public Health*, article *Evaluation of Formal and Informal Spatial Coastal Area Planning Process in Baltic Sea Region* (doi:10.3390/ijerph18094895).

Based on the analysis of theoretical and legal aspects of the village development and local community activity provided in this section, the author concludes that there are sufficiently many regulatory enactments allowing to formally implement the territory planning process. However, it has to be mentioned that local communities intend and are ready to be involved in a much more informal planning process in their local territory (area) development. It also has to be noted that exactly the participation of the local community in such planning and the plan implementation process would create the highest added value, as the local community is better aware of its needs and the best solutions for meeting them.

With the account of these conclusions, the second chapter of the Thesis studies opportunities and methods of community involvement in territory planning, as well as opportunities to evaluate the development of villages to ensure objective decision-making.

2. Community Involvement and Place Development in the Baltic Sea Region

This chapter of the research evaluates the planning and decision-taking process, as well as the community involvement process and formats of such involvement. It allows fulfilling the research objective “to research the society involvement and local development planning methods and approaches in the Baltic Sea region”, providing practical examples for an objective decision-taking and evaluation, as well as highlights practical examples for informal involvement of the local community in the territorial planning process. The chapter provides a significant contribution to preparing proposals for further development and introduction of the village development planning model.

2.1. Analysis of Community Involvement in Territorial Planning

The analysis of the accepted practice in territorial development planning serves as a basis for any planning level. It is a significant ground for introducing the village development planning level, which is examined further in the research.

To interpret the Development Planning System Law (Legislation, 2008), which states that the Cabinet of Ministers shall, as far as it is not otherwise provided for in the Law, determine the development planning documents of all levels, types and terms, the content to be included therein, the procedures for drawing up, approval, updating, becoming invalid and term of validity thereof, as well as the procedures for the provision of the relevant reports and public participation, the Regulation No. 970 “Procedures for the Public Participation in the Development Planning Process” (Legislation, 2009), was approved on 25 September 2009, which prescribed that public participation was possible in the following stages of the development planning process:

- 1) proposing of a development planning process (including detection of problems and determination of policy alternatives);
- 2) drawing up of a development planning document;
- 3) the decision-making process according to the procedures stipulated by the decision-making institution;
- 4) introduction of a development planning document;
- 5) supervision and evaluation of the introduction of a development planning document;
- 6) updating of a development planning document.

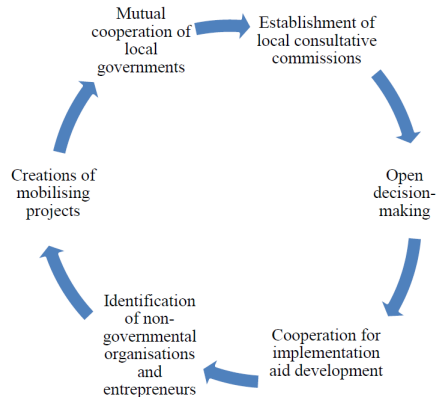


Fig. 5. The regional mobilisation cycle (Ministry of Environmental Protection and Regional Development, 2008)

Figure 5 shows the mobilisation cycle illustrated in Fig. 2, which indicates the actions to be taken before drafting the development document in order to ensure the transparency of the process and the comprehensibility of the direct beneficiaries – citizens and entrepreneurs.

Over the past decades after the regaining of independence of the Republic of Latvia, significant changes have occurred in the country's development. The democratic country has been developing by establishing a new legislative framework to contribute to national development and devoting major efforts to the development of civil society. Land development and use of local resources are planned at different administrative territorial levels, but in recent years, the issue has been raised about the need for the lowest planning level – the village and the community.

Up to now, the practical experience, the legal regulation and the territorial development planning guidelines have been directed to the usage of statistical data and direct involvement of the community (surveys, meetings, etc.) in decision-making. Such an approach in the Latvian context has significant deficiencies:

- ✓ the statistical information is often available only at the national, regional or, in some cases, also the local government level, but municipalities, mostly, have neither resources nor competence for long-term data accumulation about villages, environs or communities;
- ✓ the direct involvement of the community is often limited to accepting or generalising the opinion of a certain group, often negatively inclined.

The aforementioned approach in decision-making is essentially considered subjective and does not analyse a wide diversity of opinions. At the same time, the state, local governments and private sector have a massive volume of data, which, by using and analysing it correctly, would allow creating of new tools in making objective development planning decisions.

The author of the research analyses and summarises the information available from the state, local governments and private sector information systems in order to create new decision-making

tools related to summarising and analysing the existing data at the lowest development planning level – that of the village, environs and community.

The most significant conclusions of the research are related to the fact that, in essence, there is no need for accumulating new data, and many objective decisions can be taken with the already accumulated information. Such usage of information would also allow Latvia to start introducing the *Smart City* concept (see Section 1.2) in smaller residential areas by using the available resources much more efficiently and simultaneously ensuring multidimensional sustainable development.

The parts included in this section were first published in English in the *Baltic Journal of Real Estate Economics and Construction Management*, in the article *Community Participation in Village Development: The Scale of Latvia* (doi:10.1515/bjreecm-2016-0007).

2.2. Assessment of Community Involvement in Site Development Planning Processes in the Baltic Sea Region

To substantiate and evaluate the community involvement in the territorial development planning processes in the Baltic Sea region countries, Section 2.2 compares different methods of involving communities of the Baltic Sea region. It is significant, as it provides a summary of the village territorial development planning model to be used. These methods are more inclusive for the local community than the formal planning methods.

The balance between community involvement in the participatory process of spatial planning (in the coastal areas of the Baltic Sea Region) needs to be determined as a matter of high priority. Through the Coast4us project, partners address this major challenge and respond adequately to the key issues concerning the community involvement in spatial planning, which in many cases depends on the participatory process.

Defining a precise goal is the basis for successful project implementation. At the beginning of the learning process, participants need to have a clear understanding of the learning objective (What new experiences will I gain?), which means that the objective must meet certain quality criteria, and these are: the objectives are understood by all those involved in the training; the goal is achievable; the target result is measurable and verifiable. Learning from partner countries makes sense because it stimulates a collective, multidimensional, and dynamic exchange of experience. Therefore, the Coast4us project allows us to reach this through involved parties with relevant experience.

Effective participation can be achieved through education, access to useful information, meaningful interaction with government officials, and open dialogue (Wilkinson, 1976). Although community involvement in the participatory process is already drafted in planning documents of all participating countries, it mainly focuses on public hearings to ensure that individual opinions are heard. There is a lack of focus on consensus building through the community in the specific territory. Meaningful public participation focuses on the process rather than the ultimate decision (Widman, 2002). The inclusion of all community residents provides exposure to a healthy mix of perspectives, improving the decision-making process (Perkins Spyke, 1999). Therefore, this would benefit the local territory by ensuring informed municipal decisions and greater legitimacy and acceptance of decisions by the local population (Widman, 2002).

A sense of community is a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members' needs will be met through their commitment to being together is a reason why coming together, learning and being active was an important precondition to reach the goals of the project (Chavis, Newbrought, 1986; Auziņš, 2019).

The learning process involves successive steps that lead to the result. The number of steps can vary depending on the complexity of the goal to be achieved and the target audience to be educated (introduction, training, testing, conclusion) (Suryani, Schultz, Darmajanti, 2014; International learning, 2016; Russell, 2006). The tools that are used in the task execution process can be intangible (organisation, team, leadership style and techniques) and tangible (information technology and other tools).

The obtained result of comparing different approaches shows whether the goal and the process have been correct and reveals the weaknesses of the solution. Different strategies were used to evaluate the experience and knowledge gained in the project. Moran distinguishes between these two principles by defining assessment as “the use of measurements to achieve an assessment of how well a person or group of persons has achieved their learning goals”. In contrast, evaluation “refers to the use of measurements to describe the achievements of stakeholders and to make recommendations” (Moran, 1997). Reeves' evaluation focuses on evaluating the value and effectiveness of a project. On the other hand, the assessment tool measures the process of gaining practice and learning, as well as other human characteristics, and this is essential if we want to improve the process (Reeves, 2000). Depending on the task and content, assessment can be done before, during or after an episode of knowledge and practice (Isaac, 2009). The obtained result is important for further work with local governments and residents.

It has been investigated and summarised before that there is a model which proves that three important components influence an individual's participation in voluntary neighbourhood organisations and that sense of community plays a catalytic role in mobilising the three components. The three components are the perception of the environment, one's social relations, and one's perceived control and empowerment within the community (Chavis, Wandersman, 1990).

To include the three previously mentioned components, it is important to work with communities and to use different methods to involve the public and gain new knowledge and experience. The choice of methods may be related to a specific situation in the partner country region – pilot area, the number of people acquiring information, knowledge and experience, and the degree of human involvement.

Community members' involvement has a wide range of activities (Community Engagement, 2020):

- informing (providing the public with objective information to help them understand the problem, alternatives and solutions);
- consulting (obtain public feedback on analysis, alternatives, or decisions);
- involvement (working directly with the public throughout the process);
- collaboration (working in partnership with the public, including the development of alternatives and the identification of solution);
- empowering (leaving final decision-making to the public).

The project partners involved in the project widely use the classical methods of community engagement – workshops, meetings and trainings. These methods allow to make decisions and control the results achieved.

Workshops are designed to exchange information, and the formats can vary:

- general workshops – discussion of goals, setting tasks to achieve goals and discussion (relatively large number of stakeholders); long discussions, confrontation is possible;
- thematic workshops – discussion and solution of a specific topic (the number of participants is usually much smaller), for example, selection of a planning object, discussion of elements in the plan, fundraising, and search for project executors.

Meetings, working meetings, meetings with stakeholders have a limited number of participants and solve specific tasks. Meetings can take place on the premises and off-site. To attract participants, it is recommended to hold the meeting at a site in the local community rather than in a formal place (city hall, etc.). In relation to the meetings, effective is the so-called “early dialogue” method, where the public is included in the early stage of the planning process. This procedure somewhat differs from regular practice when the public is commonly addressed at a later stage, when community members have already developed the proposals

Training – training of small stakeholder groups on specific topics, such as site-specific biodiversity, sustainable development, detailed plan, and other topics.

Besides classical methods, different alternative methods have recently been used to get the public involved. These methods are:

- “Walk and talk” principle in discussing important issues – informing stakeholders (training, problem presentation) at a specific site, for example, a specific village gathering at a site where specialists explain the current situation, offering solutions. This activity commonly is addressed to a smaller group of targeted and closely involved stakeholders, but such activities could be arranged for a wider audience as well.
- Informal meetings – unplanned meetings of activists with the villagers, where various topics related to the quality of life of the villagers are discussed. An alternative form of dialogue meetings is meetings and discussions with the public at events other than formal dialogue meetings, for instance, at public events in the local community, such as fairs or festivals.
- Hiking/cycling route – a developed, previously announced route, which shows and discusses architectural values, environmental objects, and natural values, such as the condition of historical buildings, road infrastructure.
- Inspirational walks/bike rides could be done with experts – a small group of villagers (7–12 people) together with an expert go along a certain route and discuss the current situation and problem-solving techniques.
- Special events, e.g., The Baltic Sea Day – a forum to discuss joint international action on the pollution of the Baltic Sea and the problems of restoring normal ecological status at sea (Baltic Sea Day, 2020).
- Inspirational biodiversity day – an occasion for raising awareness of the species and ecosystems and an opportunity to foster concrete action in their defence.
- Idea collection map (mind map) – a mind map is a grid pattern in which information is stored, arranged, and prioritised using keywords or words and images that evoke memory. Each memory trigger (keyword or image) included in the mind map acts as a key to “open the door” to facts, ideas, and information. Graphically, an idea map is displayed as a diagram in which the main keyword (idea or topic of the map) is connected to related concepts. Usually, a mind map has a dynamic shape and layout (Domu kartes, 2020; Mind map, 2020).

- Activities with children – exhibition of children's drawings and other figurative works on the theme of nature, sea, work, etc.
- Web-based engagement – different web-based processes such as web site, online discussion forums and blogs, social networking, ratings and voting, interactive TV.

A brief summary of engagement methods in the context of the project can be seen in Table 3. Workshop sessions in Kökar should be especially highlighted, which used a combination of several tools:

- Cause-effect diagram, the “fishbone”. “This tool helps to identify, sort, and display possible causes of a specific problem or quality characteristic. It graphically illustrates the relationship between a given outcome and all the factors that influence the outcome”. This type of diagram is sometimes called an Ishikawa diagram because Dr. Kaoru Ishikawa, a Japanese quality control statistician, invented it in 1943. The design of the diagram looks much like a skeleton of a fish. Therefore, it is often called the fishbone diagram (Deshpande Vivek, 2008).
- The “Six Thinking Hats” technique involves using metaphorical hats in discussions. Participants put on hats to indicate directions of thinking. The colour of each hat is related to a function: white hat focuses on the data and information; red hat looks at the topic from the point of view of emotions, feelings, and hunches; black hat uses experience, logic, judgment, and caution to examine the difficulties and problems; yellow hat is concerned with benefits and values; green hat imitates creative thinking and movement, to generate new ideas and solutions; blue hat concentrates on reflection, metacognition and the need to manage the thinking process (Serrat, 2017).
- Comparison of alternatives is a method of group decision-making where facts are separated from assumptions to create alternative solutions, common criteria are judged before ranking and both the strengths and the weaknesses of the alternatives are open for everyone to see.
- Besides, Kökar used a method called “demologue” (from Greek *demos* = *people* and *logos* = *talk*) when the whole community is engaged in talking and listening on a subject with the help of formal and informal, small and large meetings, word-by-mouth, social media, printed local media, newspapers and broadcasted media. The plan is divided into seven areas, which operate with facts about the project and use the optimism, pessimism, feelings and creativity of community members to make decisions.

Table 3

Conclusions Obtained in the Evaluation of the Public Involvement Process (developed by the author)

Participant	Lessons learned
Latvia, objects of analysis: Tūja, Garupe	<p>It is important to involve all community members (including seasonal inhabitants) in the community planning process and implementation of the development plan. Motivation of community to participate and focus on alternative involvement methods.</p> <p>New knowledge about GIS (layers and groups of influencing factors) as a tool for communicating information and basis for long-term bottom-up planning by inhabitants.</p> <p>The community members' care about (interest in) nature diversity, clean environment and sustainable development.</p>
Sweden, objects of analysis: Arkösund, Ekön, Bergön	<p>Involvement of different target groups in the planning process by using new form of dialogue. Planning and development processes should be more visible to the public.</p> <p>The use of external consultancies for making the planning together with land owner.</p> <p>Knowledge about sharing of managers' and scientists' knowledge as well as inclusion of local knowledge, experience about landscaping.</p>
Finland, objects of analysis: Mariehamn and Sund, Kökar	<p>A new approach to achieve better local engagement and cooperation between different interest groups.</p> <p>Building a better understanding about ecosystem services in the sustainable planning process.</p> <p>Knowledge about eco-mapping and maptionnaire (Community Engagement Platform).</p> <p>It is important to involve local people at an early stage in the planning process so that people understand what needs to be done.</p> <p>The project should try to include functioning green infrastructures, which are important for neighbourhood (village) planning.</p>
Estonia, object of analysis: Saaremaa	<p>Local community residents and their informal groups should be involved in the territory planning process, as residents have a better understanding of the situation and are better at problem solving.</p> <p>The balance between planning and protecting should be found.</p> <p>Working with primary schools and engaging the community members to evaluate and to take care of the environment.</p>

Evaluating the process of gaining experience during the project implementation, four basic questions were identified: 1) goals and objectives; 2) methods of community involvement; 3) obstacles and problems; and 4) lessons learned.

The project's main goals of pilot areas are sustainable plans with a holistic perspective, where different interests are balanced, both nature, culture and social values, and local demands for economic development.

Project contributes to the improvement of the spatial development planning process, including society's involvement in territorial planning and implementation. Local collaboration and involvement are very important for the success of implementing sustainable coastal plans. Comparing the main objectives related to the development plans of the pilot areas, it can be seen that they have notable similarities in differences in details and scope.

In all cases, the involvement of various stakeholder groups in the spatial and community planning process and the implementation of the development plan is dominant. Involvement of the general public and interest groups in ecological, cultural and social issues, as well as in the planning process, results in a better accessibility to information in the planning phase and an opportunity to voice their concerns and suggestions during the planning process.

The parts included in this subsection were first published in English in the journal *Architecture and Urban Planning* in the article *Evaluation of Community Involvement in Participatory Process – Lessons Learned in the Baltic Sea Region* (doi:10.2478/aup-2020-0009).

2.3. Objective Decision-making

This section provides an acceptance of the need for modern tools and evaluation methods, so that the decisions made informally during the development stage of the village plan are targeted

and sustainable. This approach is aided by objective decision-making based on data and knowledge. This section explains how to reliably assess village development with data.

The topicality of recent years in the planning of settlements and neighborhoods is the use of new technological tools not only in decision-making, but also in the search for the most economically advantageous solutions and public involvement. In a broader sense, this process is called a “smart city”, but in a narrower sense it includes both the organisation of transport and people flows, the planning/design of infrastructure and buildings, as well as the deployment of services and the use of energy.

Taking into consideration the initial successful experience, it is expected that these concepts will only develop faster in the coming years, because, on the one hand, these technologies improve the quality of solutions, but on the other hand, they also reduce various maintenance and development costs. At the same time, from a theoretical point of view, the use of such systems contributes to the sustainable development of settlements, as it promotes the use of social resources of settlements – the involvement of an increasing number of people in making decisions that are important for the development of a place.

This section includes parts of the earlier published article in English *Local Economic Development Planning Tools: from Subjective to Objective Ones* in the collection of conference abstracts of *Riga Technical University 58th International Scientific Conference “Scientific Conference on Economics and Entrepreneurship” (SCEE’2017)*.

2.4. Assessment Indicators of Village Development

This section studies the local territorial planning in the context of using the geographic information system (GIS) of the Baltic Sea region and updates the planning approaches based on local needs for a smart and sustainable development in the coastal territories.

The present research prioritises the data that should be collected and monitored to ensure trustworthy, long-term, and smart development for specific coastal area territories. The in-depth investigation of local needs-based planning approaches will be provided in further research of the indicator analysis tool for new, informed, and objective decisions and vivid solutions in village and neighbourhood territory planning. To approach the objective of the present research, we developed two indicator groups influencing the smart development of coastal villages or neighbourhoods.

One of the biggest challenges for data model creation is choosing the appropriate indicators for analysing local territories. There are two principal ways to solve this “indicators” issue. One method to analyse an area is to use different types of indicators that describe the area in terms of the function, structure and location (Hopkins, Bailly, Stottrup, 2011). Using these three large groups would require extensive analysis, including historical, financial, social, ecological and climate data (Denzin, Lincoln, 1994). By covering the indicators of the territory, it is possible for the local community, in cooperation with the municipality, to develop a long-term strategy for the development of the village or neighbourhood territory. One of the important indicators is sociability. The World Health Organization, along with the Office of Disease Prevention and Health Promotion’s Healthy People 2020 initiative, identified social support and good social relations as key determinants of health and well-being. The Project for Public spaces showed how to work with different places (Parker, Manson, Janssen, 2003; Public Spaces, 2016). To deal with this challenge, the most important indicators group for the local community are sociability; uses

and activities; comfort and image; and access and linkages, which form the subgroups developed by the authors (see Fig. 6).



Fig. 6. A group of indicators influencing village or neighborhood planning (developed by the author using the original article of the subswction).

Another method to analyse local territories is to pay special attention to analysing the historical development of the local territory, to collect its traditions and find a sustainable way for the future to integrate the traditions and culture with developing the territory. This characteristic of local territory may require a unique approach and a focus on diferent indicators that play roles in making the image and attractiveness of the territory (Kärkliņa, 2012). Regarding the conducted expert interviews, we developed six indicator groups (see Table 4):

- economic factors;
- social factors;
- environmental factors;
- cultural-historical facors;
- government basket service;
- specific sea resources (in the water and inland).

Table 4

Indicators Influencing Village or Neighbourhood Planning (developed by the author using the subsections original article)

Indicators of the Local Territory	
I. Economic factors in the local territory	
-	employment
-	wages and salaries
-	real estate in village/neighbourhood (SA—particularly the seasonality of real estate usage)
-	migration (SA—particularly seasonal migration)
-	entrepreneurship in local territory and in municipality (region) (SE—in the fields that are directly connected with sea resources)
-	spending of municipalities on social and other support or discounts for taxes in the village/neighbourhood (if applicable; for land or real estate)
II. Social factors in local territory	
-	structure of inhabitants
-	nationality
-	size of the household
-	level of education
-	treatment of foreigners in the local territories
III. Environmental	
-	housing information
-	quality and volume of resources delivered and produced in the local territory
-	environmental information (SE—protected areas, protection and sustainable usage of sea resources)
-	property structure
-	ecological structure (SE—sea resources and the influence of climate changes on these resources)
IV. Cultural	
-	cultural activities.
-	free time for local inhabitants (cafes, walks, forest, shops, short migration, homes, and sport)
-	number of tourists per year, spent financial resources
-	historical links with the territory, traditions in the local community (coffee, sauna, fish smoking, berry picking, etc.) (SE—fishing traditions, recreation traditions)
-	population activity and level of cooperation with the municipality (in the village, village elder, Facebook group, WhatsApp group, etc.)
V. Service basket	
-	taxi
-	public transport
-	regional and government centres
-	regulations in place
-	health services
-	shop services

For analysing local territories, methods that produce accurate and precise data should be chosen. These data must cover the largest part of the territory and most of the inhabitants. Triangulation involves the use of different methods and sources to check the integrity of, or extend, the inferences drawn from the data. Triangulation has been widely adopted and developed as a concept by qualitative researchers as a means of investigating the “convergence” of both data and the conclusions derived from them (Galdeano-Gómez, Aznar-Sánchez, Pérez-Mesa, 2011). This technique is often cited as one of the central methods of “validating” qualitative research evidence.

The methods for collecting of data:

- mapping of the geospatial data – geodetical surveying on the field, use of the geospatial databases to collect the environmental data;

- survey – use of mutual and written methods, social forms, and also possibly the GIS platform;
- interview – collecting the cultural information and needs for inhabitants;
- observations – collecting information on the habits and behaviours;
- analysis of documents – collecting information on the services and regulations of the government, the decisions of the government and submissions.

Data sources for the information vary from maps to databases (see Fig. 7):

- geospatial databases (textual and graphical);
- statistical databases;
- archives;
- on the field collection.



Fig. 7. Sources of indicator data (developed by the author using the original article of the subsection)

We explored local territory planning for the villages and neighbourhoods in the Baltic Sea coastal areas in the context of using a GIS, and we highlighted its topicality for the development of local needs-based planning approaches. To approach the objective, we developed three indicator groups (statistical data, geospatial information, and dynamic information) that influence village or neighbourhood planning. We demonstrated the primary idea of using the hard data and a GIS by designing the information system architecture of the indicator analysis tool.

Indicators are a tool used to help to analyse the present and predict the future development of villages and neighbourhoods in the Baltic Sea coastal areas based on credible evidence. A GIS is one of the best ways to present and process statistical and geospatial information using spatial analysis methods, e.g., geoprocessing. The indicators provide a potential contribution to the social, economic and sustainable development of a local territory and the growth in quality improvement (potential future layers). This creates better communities for future generations and establishes

viable communities, local planning services and urban and regional planning. In the development of brownfields and the land development, plans can be adjusted to reach most of the expected results from inhabitants through stakeholder dialogue and cooperation (to develop a cohesive community).

The parts included in this section were first published in English in journal *Sustainability*, in article *Indicators for the Smart Development of Villages and Neighbourhoods in Baltic Sea Coastal Areas* (doi:10.3390/su12135293).

In view of the fact that the first chapter of the research evaluates the essence of the planning systems of villages, communities and smart villages and their formal and informal approaches, the second chapter analyses the main process of the territorial planning comprehensively. Classical approaches for the community involvement have been compared, clearly demonstrating that, when developing the village development planning level, a classical and legally regulated model should be combined with a more informal approach and community involving activities. *Such combination of formal and informal approaches allows implementing social, cultural and mental dimensions of sustainable development.* Simultaneously, information on decision-making and village development assessment indicators has been studied, *allowing to implement a political dimension of sustainable development*, which means that responsible decisions are taken within the framework of the cooperation.

The third chapter of the research analyses the local economy and the local potential that can ensure *implementing of economic and ecological dimensions* of sustainable development.

3. Place Economy and Potential

This chapter of the Thesis determines economic aspects of the local community development in coastal areas and studies culture as a potential for local development. These two aspects complete the assessment of significance of the sustainable development dimensions in the village development planning.

This chapter evaluates the conditions of smart coastal economy development by using local resources. In addition, the resources provided by the Baltic Sea and historical coastal cultural resources have been identified, which could provide a significant contribution and framework to the coastal village planning.

3.1. Research of Economic Development Resources of Coastal Areas

This section provides viewpoints of the EU and Latvia regarding the usage of sea resources and their significance in the economy development and smart specialisation. It is studied how international and national decisions directly impact the local community and its economic development and what considerations are to be taken into account when developing the village development plan – the village lives in the conditions of a direct influence from the surrounding environment and mutual connections. Thus, information has been summarised on the introduction mechanisms anticipated for efficient introduction of the Latvian smart specialisation strategy (RIS3) to use the sea and coastal resources and assess opportunities for introducing such mechanisms in Latvian coastal territories. An analysis has been performed after a comprehensive study of documents (planning documents of the EU level, planning and policy documents of the national level, planning policy documents of the regional and local level) and information obtained from interviews and focus groups with experts of the national, regional and local levels has been summarised.

Smart specialisation strategies

EU level. Recognising the fact that economic realities change the world faster than global politics, in 2010 the European Commission approved the strategy for smart, sustainable and inclusive growth, called EUROPE 2020, in order to promote greater economic independence and achieve a more sustainable future. The strategy puts forward three mutually reinforcing priorities:

(P1) Smart Growth – developing an economy based on knowledge and innovation.

(P2) Sustainable Growth – promoting a more resource efficient, greener and more competitive economy.

(P3) Inclusive Growth – promoting a high-employment economy delivering social and territorial cohesion.

National Level of Latvia. In 2013, Latvia approved the Guidelines for the Development of Science, Technology and Innovation for 2014–2020 that comply with the objectives of the EUROPA 2020 Strategy for the development of a national/regional science and innovation strategy for smart specialisation and the objectives of the National Development Plan (NAP) for science, technology and innovation development policy.

In Latvia, there is also a national industrial policy, “The Guidelines for the National Industrial Policy for 2014–2020”, which envisages stimulating structural changes in the economy in favour

of the production of goods and services with higher profitability, including increasing the role of industry, modernising industry and services, and diversifying the export basket.

In Latvia, the report on the "Development of a Smart Specialization Strategy" has been developed in which it is defined that RIS3 envisages a purposeful focus of research and innovation resources on innovation priorities in the areas of knowledge specialisation where the country has comparative advantages or assets exist on the basis of which such advantages can be created. Latvia's smart specialisation strategy for promoting the balanced development of territories has set a priority which foresees the identification and specialisation of the existing resources of the territories, putting forward the prospective economic development opportunities and directions, including leading and prospective business directions in the municipal territories.

The following areas of smart specialisation are identified in Latvia:

- knowledge-intensive bioeconomy;
- biomedicine, medical technology, biopharmacy and biotechnology;
- smart materials and engineering technologies;
- smart energy;
- information and communication technologies (Legislation, 2014).

Blue Growth policy overview

Blue Growth is an integrated approach to stimulate the maritime economy, which, similar to the concept of smart specialisation, pays significant attention to innovation, the creation of new companies, a bottom-up approach and the development of value chains. Creating the so-called blue value networks requires:

- development of networking between suppliers and promoters;
- infrastructure sharing;
- promotion of blue clusters and networks.

In 2014, the European Commission developed the Sustainable Blue Growth Agenda for the Baltic Sea Region, which provides a strategic approach to the use of existing marine and coastal resources based on the following pillars:

- consistent approach to innovation to increase sustainability;
- knowledge and skills, the development of clusters;
- financial access to maritime sectors.

Stimulation of the abovementioned activities can be initiated by the private sector. The following activities are expected from the public sector:

- competence development and knowledge sharing;
- the use of marine clusters for the promotion of smart specialisation;
- promotion of cross-border cooperation;
- promotion of cooperation "Laboratories".

The concept of blue growth has been developed by the European Commission (DG Mare) with the aim to exploit Europe's oceans and coastal areas for job creation and economic growth. It is a way to innovate the development of marine activities that are often dependent on each other, which in turn relies on shared knowledge and infrastructure sharing. The introduction of the

concept is an essential innovation in the context of all sectors and cannot be implemented in the context of individual sectors.

In total, six blue growth functions are identified:

- maritime transport and shipbuilding;
- food, nutrition, health and ecosystem services;
- energy and raw materials;
- recreation, work and living;
- coastal protection;
- maritime monitoring and surveillance (European Commission, 2017).

By examining political documents and the rationale behind their development, it can be concluded that the sustainable use of the economic potential of the seas and oceans is one of the key elements of the European Union's maritime policy, which recognises ocean energy as one of the five areas for the development of the marine economy that could contribute to job creation in the coastal area.

In turn, according to the long-term thematic planning of Latvia for the development of the Baltic Sea coastal public infrastructure, developed in 2016, the coastline is described as a unique, diverse, sustainable and economically active space with clean water, air, beach, less-changeable landscapes and a quality living environment (Ministry of Environmental Protection and Regional Development, 2016).

Although Latvia's planning documents are related to the priorities indicated in the EU policy documents, individual RIS3 measures for coastal growth are not allocated in Latvia, however, it is viewed in the context of Latvian RIS3 implementation support as an additional possibility. No Blue Growth policy or strategy has been developed in Latvia, but there are similar plans in other countries (regions) of the Baltic Sea region, therefore, Latvia must continue closer cooperation with other coastal areas of the Baltic Sea in order to promote not only the state, but the more efficient use of EU region resources and smart growth.

Taking into consideration the information about smart specialisation, blue growth, and the conditions of the new economic growth theory (each country or region must find its own technology development path), in the view of the author of the study, in order to ensure the economic dimension of sustainable development of coastal communities, the most important directions of economic activity in the Baltic Sea coastal area are as follows:

- tourism and recreation, including health resort;
- port activities, including the reception and maintenance of yachts and the construction of ships and the related equipment;
- fisheries, fish processing, in particular its traditional forms;
- use of renewable energy resources (wind, water, waves, biomass, etc.).

The parts included in this section were first published in English in the *Latvian Journal of Physics and Technical Sciences* in the article *Identification of Maritime Technology Development Mechanisms in the Context of Latvian Smart Specialisation and Blue Growth* (doi:10.2478/lpts-2018-0029) and *Conference Series: Earth and Environmental Science, Vol. 453: 5th International Conference on Green Materials and Environmental Engineering (GMEE2019)*, article *Sea Natural Resource Potential for Blue Growth Policy Implementation in the Baltic Sea Region* (doi:10.1088/1755-1315/453/1/012033)

3.2. Exploring Culture as a Prerequisite for the Economic Development of a Place

In the study the author performs a comparative study of the three local communities: Carnikava village (Latvia), Hults Bruk village (Sweden), and Vygoda village (Ukraine) – to recognise the role of cultural values and cultural heritage in the development of local community and local economy. The certain areas (villages) have been chosen to estimate the importance of sustainability dimensions at different stages (levels) of economic development in the countries under analysis on the condition that the village is situated close to the important place (city) of economic development.

Thus, the role of culture in the context of sustainable development is indicated not only in the cultural dimension, but also within the framework of the economic dimension.

At the same time, the new economic growth theory (Audretsch, Keilbach, Lehmann, 2006) is based on the idea that each country or region should look for its own path of technological development. It is necessary to achieve technological progress appropriate for a particular environment, nature and human knowledge level, as the adaptation of technologies of other regions means the repetition of old and already used ideas, but today's buyers are only interested in innovative, efficient and less expensive products or services. However, this result can only be achieved through the efficient use of new ideas, technologies and materials, as well as human resources management. Thus, exactly at the local level it is possible to provide support for the development of entrepreneurship by creating knowledge, human capital and sustainable resource use types.

Within the framework of the study, the authors have chosen the three villages in European countries – Sweden, Latvia, and Ukraine – to conduct on-site research in order to identify and evaluate the local economic situation, as well as their cultural characteristics and heritage, thus obtaining the views on the impact of cultural dimension on the local economic development. In this section, the author substantiates the choice of specific territories and evaluates the most important information obtained in the three local communities; in Latvia – Carnikava village, in Sweden – Hults Bruk village, and in Ukraine – Vygoda village.

The author has chosen the research territories by the following characteristics:

- The community under investigation should be within reach of researchers, respectively, in Europe.
- The communities under investigation should be located in countries of different development levels that do not have a shared cultural heritage.
- The communities under investigation should have a similar geographic location – they should be located in the immediate vicinity of large settlements.

Table 5

Factors for Choosing the Research Area (developed by the author)

Level of development by GDP (EUPEDIA,2019)	The largest settlement area	Cultural characteristics (Encyclopædia Britannica)	The research territory chosen
Sweden – a highly developed country	Norrköping and the region	Belonging to the Scandinavian culture	Hults Bruk village
Latvia – a developing country	Riga and the region	Belonging to the Baltic region culture	Camikava village
Ukraine – a less developed country	Dolyna and the region	Belonging to the Slavic culture	Vygoda village

The territories selected for the presentation of the study are shown on the map of Europe (see Fig. 8)

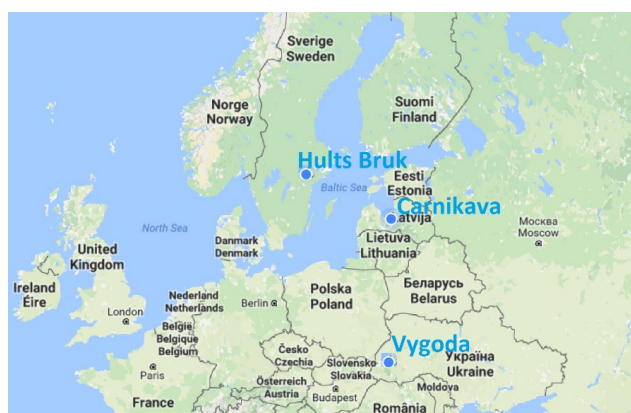


Fig. 8. Location of the research areas (developed by the author).

Results of On-site Research on Place-based Economic and Cultural Development

Hults Bruk village is located in Sweden, near the city of Norrköping. There is practically no economic activity due to small population size. At the same time, the historical economic development of the village is based on the blacksmith craft (since 1697). At present, the village's largest employer is a company with the same name as the village.

Despite changes in economic conditions, blacksmith trade has retained its importance, as the main product manufactured in the village is axes, which are exported to many countries around the world.

Apart from an essential factor of blacksmith used to manufacture the product, the local community considers blacksmithing as its basis for existence; therefore, the Blacksmith Craft Centre has been developed with the villagers' initiative.

This centre serves as the community's identity and socialisation centre as well as the social support centre because the disadvantaged persons are given the opportunity to acquire this historic craft. Villagers consider that the blacksmith craft and products developed by blacksmiths are their

common identity, which in future will allow developing complementary economic areas such as tourism and related services.

Carnikava village is located in Latvia, near the city of Riga. There is little economic activity because, due to its geographic location, immigration has increased over the past decade related to the desire of the capital's population to live in private dwelling areas. As a result of this migration, young people continue working in the city but live in Carnikava village.

The basis of the historical development of the village is the fishing sector, which at present does not employ a large number of employees. The fishing process result – lamprey – has become the symbol of the identity of the local community. At the national level, the village is primarily associated with the particular product.

Owing to the popularity of the product, the local community builds its recognition and the existence of the community on the basis of the historic craft and product. Moreover, the local community has achieved that the “Carnikava lamprey” has been granted protected geographical status at the EU level.

The villagers consider that the fisherman craft is sufficiently complex and its development will not take place, but the fishermen's products are their common identity, which already now promote tourism and related services, including cultural life, for example, the annual lamprey festival.

Vygoda village is located in Ukraine, near the city of Dolyna. There is little economic activity because, due to its geographic location, business development and workplaces are provided in the city or in one of the typical sectors of the region – forestry.

Villagers consider that the cornerstone of their development is the historically preserved narrowgauge railway, which provides daily entertainment of guests. Initially, the train was used to transport people and goods in the mountainous region, but now it serves entertainment needs.

The local community has already understood that this historical object is an interesting tourist attraction, so the European Union funds have been used to establish the Tourist Centre with the Railway Museum, in the premises of which domestic products and accessories are sold. At the same time, the increasing number of tourists and visitors contributes to the development of new complementary services, such as catering and related services.

In all the three local communities – in Latvia (Carnikava village), Sweden (Hults Bruk village) and Ukraine (Vygoda village) – the cultural heritage has played a role in today's village community identity and economic processes.

Cultural heritage in the economic processes can manifest itself in different forms, for example, as historical products and services, as well as the transformation of historical sites to provide today's services.

Cultural heritage can pose both a direct impact on the economic development, for example, continuing to produce the particular products, and an indirect impact by promoting the production and sales of complementary goods or services, using historical cultural factors as the identity of the place and force of attraction.

The parts included in this section were first published in English in the Conference Proceedings of *2nd SSR International Conference on Social Sciences and Information “Advances in Social and Behavioral Sciences” Vol. 17*, article *The Basis for Sustainable Place-based*

The third chapter concludes with the assessment of the all opportunities to introduce sustainable development dimensions in the village development planning process. Within the framework of the research, the significance and application opportunities for each sustainable development dimension have been determined exactly at the village planning level, which are distinguished with the highest community involvement level and application of informal planning methods. All dimensions are significant for developing a draft village development planning model.

The final chapter of the Thesis is devoted to the significance of a strong community in the context of global challenges, and approbation results have been identified for the village development planning experience in Latvia.

4. The Impact of Strong Community Action on Regional Development

As the world was overtaken by the unforeseen extraordinary circumstances and the world-level pandemic was announced in the course of the research, this chapter highlights the benefits of strong local communities in the context of global challenges and analyses the results of testing the developed village development plan in Latvia.

4.1. The Benefits of Strong Local Communities during a Global Pandemic

This section analyses the local community's opportunities during the first period of the COVID-19 restrictions set by the Latvian government. It is additionally determined whether it is possible to use the benefits of smart villages and strong communities during this period. The local community described in the research is analysed with regard to Latvian villages located in the coastal areas of the Gulf of Riga.

In Latvia, several restrictions were set for three months: teleworking, if possible; distance learning in schools; and distance keeping, gathering restrictions for up to five people. At the same time, different services such as public transport, education services, culture services, etc. were reduced or cancelled (Legislation, 2020). In addition, the population began to make extensive use of digital technologies and the opportunities they provide for mutual communication, school and university learning processes, the purchase of necessary goods and business management. Many of these processes are also included in the smart village concept and are applicable to the management of economic processes and the provision of primary needs. Moreover, strong communities more used interaction activities to improve self-care and mutual assistance services.

The World Health Organisation gives simple precautions with regard to the distribution of COVID-19, which are mainly connected with washing hands, distancing, good respiratory hygiene, etc. (WHO, 2020).

These established guidelines require people to be careful and limit their activities to a minimum when meeting others. In view of the above, individuals lose direct contact within the framework of business and social communication. As a result, communities lose their traditional approach of direct social and economic communication between neighbours or neighbouring communities.

Latvia separately by Cabinet of Ministers Order No. 103 of 12 March 2020 imposed certain restrictions on education, assembly, international passenger transport, health care, etc. The main points for restrictions are (Legislation, 2020):

- ✓ State and local government institutions shall evaluate and, as far as possible, ensure the provision of face-to-face services remotely.
- ✓ To terminate the study process in person in all educational institutions, all types of the educational process in full form outside educational institutions and to provide studies remotely.
- ✓ To allow the gathering of up to 25 people both indoors and outdoors at organised events ensuring epidemiological and social distance.
- ✓ To determine that the performance of cultural, religious activities, entertainment, sports and other recreational events shall start not earlier than at 6.30 and end not later than 24.00.
- ✓ For persons identified by the Centre for Disease Prevention and Control as COVID-19 infectious disease contact persons, self-isolation at the place of residence (home

quarantine) must be provided for 14 days in order to be able to communicate and cooperate with the family doctor and other medical personnel.

- ✓ From 17 March 2020, to stop the international carriage of passengers by air, sea, road and rail, with the exception of passenger transport by state aircraft and military transport, as well as private and business flights (with a maximum of five passengers); to resume international air, sea, bus and rail passenger transport to or from Lithuania and Estonia as of 15 May 2020.

These restrictions practically stopped face-to-face meetings outside one household and necessitated adaptation to work and social activity.

According to the Smart Communities Guidebook (Smart Communities Guidebook, 1997), a “smart community” is a community in which members of local government, business, education, health care institutions and the general public understand the potential of information technology, and form successful alliances to work together to use technology to transform their community in significant and positive ways.

Smart Village and Business

Smart village is a relatively new concept within the realm of EU policy making. The emerging concept of smart village refers to rural areas and communities that use their existing strengths and assets as well as develop new opportunities. In smart village, traditional and new networks and services are enhanced by means of digital, telecommunication technologies, innovations and better use of knowledge for the benefit of inhabitants and businesses. Digital technologies and innovations may support the quality of life, higher standard of living, public services for citizens, better use of resources, less impact on the environment, and new opportunities for rural value chains in terms of products and improved processes. The concept of smart village does not propose a one-size-fits-all solution. It is territorially sensitive, based on the needs and potentials of the respective territory, as well as strategy-led, i.e., supported by new or existing territorial strategies. Technology is important along with investments in infrastructure, business development, human capital, capacity and community building. Good governance and citizen involvement are also key factors. Smart village would typically pay attention to e-literacy skills, access to e-health and other basic services, innovative solutions for environmental concerns, circular economy application to agricultural waste, promotion of local products supported by technology and ICT, implementing and taking full benefit of smart specialisation agri-food projects, tourism and cultural activities, etc. The concept of smart village covers human settlements in rural areas, as well as the surrounding landscapes (European Commission, 2020).

Common Agricultural Policy (CAP) includes six priorities where the last priority (No. 6) discusses social inclusion and economic development. This priority is divided into three groups: facilitating diversification, creation and development of small enterprises, as well as job creation, fostering local development in rural areas and enhancing the accessibility, use and quality of information and communication technologies (ICT) in rural areas (European Commission, 2020/2).

Private sector companies need to make a profit to survive. The key question is whether the level of demand is sufficient to justify a business proposition: will the income be sufficient to cover costs and generate enough profit to pay back loans and reward other sources of finance? For large companies operating on a national or global scale, the answer often is “no”, they can do better

elsewhere. For smaller, more territorially rooted enterprises, there appear to be four main strategies (see Table 6) (European Commission, 2020/23).

Table 6

Key Strategies for Doing Business in Rural Areas (European Commission, 2020/3)

MULTI-SERVICE HUBS	MOBILE SERVICES
Colocation into multi-service hubs provides one means by which rural service businesses can survive or even thrive. These can be planned, as is happening in rural Finland and Belgium. Equally, hubs can develop in a more organic way, as when a garage takes on the post office and then develops a food retail function.	These can provide essential services to local communities while at the same time ensure the viability of small firms by increasing their customer base. Examples include mobile dentists, vets, building maintenance and shops of various kinds.
DIGITAL DIVERSIFICATION	SHORT SUPPLY CHAINS
Architects, lawyers, consultants, and other professionals can all provide a wide range of services using digital solutions.	These have long been an adaptive strategy for small food firms to gain a competitive edge.

COVID-19-related restrictions, which called for staying at home, “drove” part of the population to the countryside. In Latvia, in addition to the apartment in the city, citizens often also own a country property or holiday house. In order to be able to do the work, to follow the lectures and classes, almost everyone was forced to raise their IT gaps, especially in remote communication.

Within a few days after an emergency situation had been announced, theoretical strategies were implemented in life:

- ✓ digital diversification – it turned out that public employees, teachers, lecturers, architects, etc., can really work from home;
- ✓ farmers and local restaurants learned to build websites and began delivering products to neighbours at home, strengthening and putting into practice short supply chains;
- ✓ larger supply businesses expanded the supply areas from the Riga suburb to the whole territory of Latvia; reduced delivery price; started services for small, one-family orders and supplemented the range of goods with basic necessities, such as disinfectants, creating a special combination of multi-service hub and mobile service (mobile multi-service).

It is important to understand whether the SMART and strong community can help overcome periods of crisis. Open questions:

- Will people and services stay in the countryside or return to the city after the end of the COVID-19 restrictions (see Fig. 9)?
- What tools are needed for successful operation remotely, and can the smart village concept help?
- Can a smart and strong village or a community with a higher level of development better overcome crisis situations?



Fig. 9. Changes due to the COVID-19 restrictions (developed by the author).

Dr. Bernie Jones discusses the smart village concept: “Unfortunately, in the world today, there are still around 1 billion people without access to electricity. 3 billion are still cooking on dangerous and inefficient stoves. Many of them live in remote rural communities. Until such communities have access to modern energy services, little progress can be made to develop their economies and improve their lives” (New thinking, 2020).

In Latvia, from a digital point of view, there are no significant obstacles for communities and institutions to manage and communicate in digital format. Villages need mutual cooperation with each other and also among institutions. Cooperation would ensure both the identification of resources and the planning of the provision of missing resources. The daily life of example coastal villages is based on a tourist service or a place of rest outside the city. Smart services successfully provide resource management, business activities, cultural event promotion, and bulletin board features.

The open question is whether social life can be provided remotely for a long time and where the reality remains – social and cultural activities? To get a “full picture” of the activities of communities and villages during the time of COVID-19 pandemic, it is important to combine concepts of smart village and strong community, which is based on the interaction scale (see Fig. 2), because digital solutions cannot be assessed without taking into account the factors of human cooperation.

To answer the open questions stated before, the authors of the study have collected information on how smart and strong community strengths have affected the community/village's ability to respond to restrictions and problems caused by the COVID-19 pandemic in Latvia (see Table 7).

Table 7

The Benefits of Smart Villages and Strong Communities during the COVID-19 Pandemic (developed by the author)

Covid-19 pandemic restriction field	Village or community groups (citizens, entrepreneurs, local administration) affected	Smart village concept and community interaction strengths as a reaction to restriction
Restriction of public transport or suspension of service	Citizens, especially those who use public transport to get to work and services	Teleworking opportunities, which, despite restrictions, allowed for teleworking and remuneration IT tools to ensure mutual public cooperation in private transport sharing
Restriction of education services or suspension of service	Citizens as recipients of services Entrepreneurs as parents of children Municipalities as service providers	There were many different IT and TV tools implemented to provide distance learning with the least possible impact on the quality of education Sufficient quality of the Internet and the number of computers allowed working and studying remotely within one household at the same time, which influenced business as little as possible
Restriction of culture services or suspension of service	Citizens as recipients of services Municipalities as service providers	There were many different IT and TV tools implemented to provide distance culture services, as well as creative amateur processes as far as possible
Restrictions of health care services or suspensions of service	Citizens as recipients of services Entrepreneurs as parents of children Municipalities as service providers	Various solutions based on telephone services and IT services were introduced, which allowed receiving services remotely without gathering and moving. At the same time, it should be noted that in the health sector only some services are provided as e-health services due to their specifics
Self-isolation and quarantine, a total ban on moving outside the place of residence	Citizens as individuals subject to self-isolation or quarantine Entrepreneurs as employers	Self-help opportunities, focusing on the ability to provide help and support to self-isolated or infected community members through remote (non-contact) tools and a strong cohesive community (this pandemic forced almost everyone to self-isolation or treatment at home)
Prohibitions on gathering in public places, including socialization points (e.g., cafes)	Citizens as beneficiaries Entrepreneurs as service providers	In Latvia, the tourism and service sector had the opportunity to attract more local market, which in the long run would have an impact on habits –tourism and recreation were also possible in the local region and in Latvia as a whole (safe) IT tools for meetings of interest groups
Restrictions on the provision of day-to-day services	Citizens as beneficiaries Entrepreneurs as service providers	There was an opportunity for a rapid reorientation of direct sales to digital sales with contactless supplies, both in the services and trade sectors
Recommendation to work remotely, mass infection at workplaces	Residents as employees Entrepreneurs as employers	Opportunity to work remotely by using IT tools due to limited access to public transport for employees, limited access to work due to children having to learn from home, including a reduced risk of cross-contamination among employees

The information analysed in the study showed that in the conditions of the COVID-19 pandemic, there was a change in the habits of society as well as a change of residence to areas outside cities, and it was acknowledged that society was largely ready to switch to remote work and distance learning. Summarising information on changing population habits, national restrictions, and the strengths of the smart village concept, it was identified that there were

significant benefits for smart villages and communities, as the local community chose a digital development path long ago; therefore, adapting to remote work, distance learning, cultural and public services did not cause many inconveniences. At the same time, the society was able to continue mutual communication and organise self-help. A big open question for post-Covid research remains: will people who chose to move out of the city during the pandemic choose to stay in the countryside or return to the city? This can make significant adjustments to the development of local communities in both potentially positive and negative ways.

From the above information and the data collected, it can be concluded that digital skills, digital equipment and services of local communities, as well as community cooperation skills have played a key role in overcoming the limitations and consequences of the COVID-19 pandemic. Smart villages and communities, as well as previously strong communities, were much better prepared for the crisis because they knew and were able to switch to digital solutions in different living spaces, as well as to provide mutual self-help.

Given the fact that smart communities and strong communities are usually closely linked to their living space and have purposefully chosen to live in small villages, it is considered that providing equivalent services, even in the event of a large pandemic, could not be a basis for change of the place of residence or business.

Examining the limitations of the pandemic and the communities' responses to them, it was concluded that smart communities, entrepreneurs, and public service providers were able to adapt to a wide range of tools – IT solutions and applications, telephone-based services, social networks, online stores, etc. This is important evidence that IT infrastructure, networking and capacity, as well as digital connectivity and interoperability, have been instrumental in overcoming the COVID-19 crisis. In conclusion, smart communities and strong communities were much more able to adapt to the constraints of the COVID-19 pandemic and overcome the effects of the pandemic, as digital skills and strong community self-help played a key role.

The parts included in this section were first published in English in the journal *Landscape Architecture and Art*, article *Smart and Sustainable Local Communities in Global Covid-19 Pandemic Conditions* (doi:10.22616/j.landarchart.2020.17.09).

4.2. Study of the Impact of Village Planning on Local Development

In the course of the research and implementation of the Coast4us project financed by the EU, a pilot territorial village development plan for Garupe village, Carnikava Region, was developed (Carnikava Municipality Council, 2019).

Within the framework of the village development plan, both formal and informal community involvement activities were organised:

- ✓ Events organised in 2019 within the framework of the development plan:
 - development programme launching event – “Coffee with Neighbours” – 15 June;
 - three educational and development plan seminars:
 - “NGO Workshop” – 16 July
 - “Garupe Together” – 1 August
 - environmental theme on waste management opportunities – 7 August;
 - investment object identification and resident unity events “Step in Nature” – 7 August;
 - Coast4us project concluding event “Meeting” – 5 October.

- ✓ At the final stage of the development plan preparation, polling of residents was arranged. The polling took place from 2 to 11 October. Filling in questionnaires was provided in the Google environment. In total, 45 respondents participated in the polling. The results are included in the development plan. Based on results of the polling among the Garupe residents, this Development Plan was specified and supplemented.

The performed research and communication with residents in the course of preparing the Garupe Village Development Plan allows us to make the following conclusions:

- ✓ The most urgent needs of Garupe village were identified during the meetings of residents, in workgroups and when inspecting the village territory in person.
- ✓ In order to implement the plan successfully, a clear structure of administration is required; the plan is to be implemented in direct cooperation with the local government.
- ✓ By balancing the sources of funding, significant financial resources for implementing the development plan can be accumulated.
- ✓ During a five-year period, a significant part of the development concepts can be implemented.
- ✓ Residents are ready to participate with their co-financing (member fee) in implementing the village development projects, in case of ensuring the village development, funds usage transparency and receipt of adequate services in return.

Three new initiatives occurred as a result of the plan development:

- ✓ a project introduced by the municipality, indicated by the village residents as the first priority project – a facilitated path to the sea (Carnikava Municipality Council, 2021);
- ✓ a project introduced by the municipality, indicated by the village residents as the second priority project – reconstruction of *Lielā iela* (Carnikava Municipality Council, 2020);
- ✓ an initiative implemented by the village residents – innovative and economic street lighting in Garupe Village (Viedie ciemi, 2022).

The aforementioned implemented projects clearly demonstrate that mutual agreement (the village development plan) between public administration (municipality) and local community provides mutual benefits:

- a) significantly improved and appropriate conditions for the local community;
- b) improvement of mutual relations between the public administration and the local community;
- c) active involvement of the local community in improving their environment both with financial resources and innovative ideas.

With account of the information summarised in this section and the analysed data, it can be concluded that the local community potential is a significant resource to ensure sustainable development in the context of regional development planning. The availability of a strong community ensures a comprehensive and inclusive development of the area, which not only facilitates strong mutual assistance and stability of the community in different situations caused by external circumstances, but also promotes sustainable development of the territory. Such conclusions serve as a basis for the expressed proposals and the prepared local territory/ community development planning model.

Conclusions and Proposals

Hypothesis of the research – village development planning as a new level of spatial planning can ensure integrated, sustainable and participatory village development in the context of regional development – **has been proven**, which is confirmed by the analysis made within the framework of the research and based on evidences and scientific findings. In addition, it confirms the ability of a strong community to react in an extraordinary situation and to create innovative ideas in the situations, when a local community has managed to agree on a uniform solution regarding its future when elaborating the village development plan.

Conclusions

1. There are sufficiently enough regulatory enactments in Latvia that regulate observation of the principles required for planning the sustainable and balanced development – community involvement, control mechanism, and mutual linking of documents. At the same time, it has been established that the Latvian development planning system does not anticipate a planning level below a local government and the community involvement is anticipated in a formal way.

2. It has been confirmed that the spatial planning systems are in a process of transformation and de facto moving closer to the local residents, as the focus of development is transferred to the needs of the specific person in the specific area (local community) by using new informal methods. The research has resulted from wide and profound studies and cooperation between experts from different countries and by observing the spatial planning traditions of the Baltic Sea region, but with a common interest in formal and informal spatial planning processes in the coastal areas.

3. The dominating involvement of different interested groups in the spatial and community planning process and implementation of the development plan should be identified. The involvement of wide community and interest groups in ecological, cultural and social issues, as well as planning process, ensures a better access to information at the stage of planning and a possibility of expressing their concerns and proposals in the planning process.

4. When studying the territorial planning in the context of using GIS of the Baltic Sea coastal areas, three groups of indicators have been developed (statistical data, geospatial information, and dynamic information), which provide potential contribution to the social, economic and sustainable development of local areas and the growing quality improvement (potential future layers).

5. In the opinion of the author of the research, the most important directions of economic activities in the Baltic Sea coastal areas are tourism and organising recreation, including spa medicine; operation of ports, including acceptance and servicing yachts, as well as shipbuilding and the related equipment manufacturing; fishing, fish processing, especially its traditional types; and usage of renewable energy resources (wind, water, waves, biomass, etc.).

6. To ensure development of the *Blue Growth* approach in Latvia and a more successful usage of the sea resources, as well as introduction of a new development model, state institutions should cooperate with research institutes, involving industry researchers, local governments and especially representatives of businesses to the nationwide discussions.

7. Cultural heritage can have a direct impact on economic development, for example, continuing to manufacture specific products, and an indirect impact, promoting manufacture and

sale of additional goods or services, while using the historical culture factor as the place identity and “magnet”.

8. Digital skills of local communities, digital equipment and services, as well as cooperation skills of communities, have had a significant role at the time of the COVID-19 pandemic restrictions and overcoming consequences of the pandemic. Smart villages and communities, as well as strong communities, were much better prepared for a crisis, as they knew digital solutions in different areas of life and could transfer to them, as well as provide mutual assistance.

9. Smart and strong communities could much better adjust to the COVID-19 pandemic restrictions and overcome the consequences of the pandemic, as digital skills and strong community assistance had a decisive role.

10. Projects launched in the pilot territory of Garupe village clearly indicate that mutual agreement (the village development plan) between public administration (municipality) and the local community provides mutual benefits – significantly improved and appropriate conditions for the local community, improvement of mutual relations between the public administration and the local community, active involvement of the local community in improving their environment both with financial resources and innovative ideas.

11. Usage of the local community potential in the area development provides a significant positive impact on the sustainable state regional development, as it ensures an inclusive and comprehensive process of territorial development. Simultaneously, to ensure the participation of such communities in the area development, it is required not only to introduce a new planning level – village planning, but also to introduce informal planning methods, planning and assessment of development based on data and indicators, as well as promote economic development of the area based on local resources. To ensure such an inclusive and comprehensive development of the area, the local territory/community development planning model has to be introduced.

Proposals:

1. The Ministry of Environmental Protection and Regional Development, in cooperation with planning regions, local governments and non-governmental organisations of local communities, need to formalise and introduce the regional development planning system at the village/community planning level.

2. The Ministry of Environmental Protection and Regional Development needs to create, summarise and provide methodological and financial support at the national level to regions, local governments and local communities, informing about different types of planning, formal and informal forms of community involvement.

3. The Ministry of Finance, the Ministry of Agriculture and the Ministry of Environmental Protection and Regional Development, as holders of resources and holders of external financial support programmes, need to plan financing to ensure sustainable development of regions, including supporting projects and initiatives promoted by local communities.

4. It is required to strengthen the local economy development based on local resources by using both culture as a resource of development and the Baltic Sea as an essential resource of development. To ensure development of the Blue Growth approach in Latvia and a more successful usage of sea resources, as well as introduction of a new development model, state institutions

should cooperate with research institutes, involving industry reserachers, local governments and especially representatives of businesses in the national, regional and local scale discussions. In view of the fact that many institutions are involved in solution of this proposal – the Ministry of Environmental Protection and Regional Development, the Ministry of Economics, the Ministry of Education and Science, the Ministry of Culture, etc., the proposal could be introduced more efficiently in case of establishing a coordinating institution that would analyse and promote the inclusion of these priorities in the national policy and planning documents.

5. The author of the research has developed a logically structural model of local territory/community development planning (see Fig. 10) that would ensure a sustainable, comprehensive and inclusive development of the area.

The model was developed to provide information to its users in a concentrated and comprehensible manner about the most essential elements of village planning in order to achieve the goal of the planning process – a sustainably, comprehensively and inclusively developed village. This model includes more elements than a formal and regulated place development planning approach, as it includes both an indication of informal engagement tools, objective and data-based decision-making, and extended dimensions of sustainability.

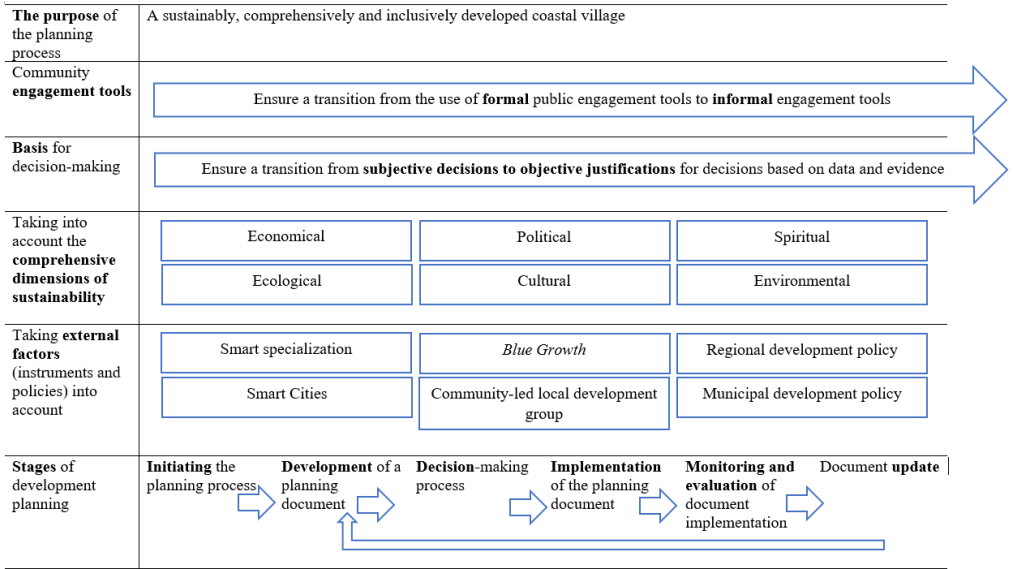


Fig. 10. Logically structural model of local territory/community development planning (developed by the author).

With account of the conclusions of this research, the model includes observation of the following principles in the local development planning process:

- ✓ the community territory is defined where the development process is planned;
- ✓ it is required to take into account and evaluate six sustainable development dimensions in the planning process, including drawing special attention to the development of local economy based on local resources;

- ✓ external circumstances are taken into account when planning the local development – the local government and regional policies, the Baltic Sea region and the EU level policies and initiatives. This principle ensures observation of the interconnection and hierarchy between the planning levels, providing that the local village development ensures sustainable development of the local government, region and state;
- ✓ the following core principles are observed in the planning process – not only formal involvement of the community is used, but also informal and inclusive methods. The development planning decisions are taken objectively, based on data and knowledge. Clear and measurable indicators must be used in introducing the development planning.

The developed model has been presented and discussed with international experts in spatial development planning at the final conference of the Coast4us project, which took place online on 8–9 September 2020. It is envisaged to present the model in a separate publication after the defence of the Doctoral Thesis.

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