Latgale Upland Church landscape reading though spatial indicators

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Abstract. Research territory is Latgale Upland. In this territory there are vivid lake and sacred landscapes. This paper describes the Latgale Upland church landscape through assessment of landscape visual character using theory-based visual indicators. This landscape research is less about identifying what makes landscape better or worse, but more about describing landscape. Methods and systems come from landscape character assessment in England and Scotland, developed by the Countryside Agency. In this paper, a focus is put on imageability. In research fields, landscape indicators are being used only recently. In this research, it is necessary to clarify, if is it possible to use indicators for smaller territories. The imageability indicator method was applied on some randomly chosen church landscapes in Latgale Upland. The use of imageability method on orthophoto has to be used in combination with field observation. Field observation is needed to correctly identify indicators, landscape background and other possible landscape features and character. The base map size and scale depend on the landscape type and open spaces. Landscape size and intensity of indicators can be used as base for characterization of landscape and possible developmental means. In church landscapes, we can find range of variable characters.

Key words: landscape indicators, landscape reading, church landscape.

Introduction

Latgale Upland is chosen as the research territory. The landscape of Latgale Upland is a picturesque mosaic landscape with lakes, serpentine roads and diverse relief, woods and fields. Unlike other Latvian landscapes, Latgale has vivid lake and sacred landscapes, as the whole Baltic Sea region has been a meeting place for various cultures – Orthodox from the east, Christianity from the west, and Islam with the Tartars [9]. Thus, this territory stands interesting because in this age of globalization, we can still observe the meeting of different sacred landscapes in the Latgale Upland territory.

In the landscape research area, there still exists no precise landscape definition. As there are many types of landscape, there have been developments of various methods for landscape research [4]. This paper describes the Latgale Upland church landscape through assessment of landscape visual character using theory-based visual indicators. This landscape research is more about describing landscape, and not just about identifying what makes landscape better or worse.

The development of landscape indicators at the European level has become important in policy and the research field [13]. At the European level, a number of policy initiatives have underlined the special role of landscape in the future environmental and social-economic development [14]. Characteristic landscape features are important for landscape protection, as it is stated in European Landscape Convention [3]. Landscape Character Assessment is a tool that can be used by landscape architects as well as other professions involved in landscape influencing processes. Latgale Upland churchyards and church landscapes are different, but these differences give common character to landscape. Landscape character in this research is defined as "distinct, recognizable and consistent pattern of elements in the landscape that makes one landscape different from another, rather than better or worse" [11]. As this research is focused on landscape character, the landscape itself has definition connected with it. This landscape definition has been developed at an international workshop: "Landscapes are spatially defined units, whose character and functions are defined by the complex and region-specific interactions of natural processes with human activities that are driven by economic, social and environmental forces and values" [13].

Methods and systems have been developed for landscape character assessment in England and Scotland by the Countryside Agency, and the Scottish Natural Heritage has been implemented across Europe [7, 14]. Nine visual concepts have been identified, which together characterize the visual landscape – complexity, coherence, disturbance, stewardship, imageability, visual scale, naturalness, historicity, and ephemera [7]. These nine concepts were for the first time introduced by Tveit et al. [12]. They can be used in different combinations, separately or all together. Church landscape is a specific cultural landscape and has the ability to create strong visual image in the observer [1]. Church landscape has a very strong connection to the church building, and it gives strong dominant point to it. However, this dominant landscape is not always so unequivocal. Such cultural landscape has many historical elements with strong

symbolic meanings; for example, church and crucifix, but these elements are never alone in landscape.

In this paper, a focus is made on imageability. It reflects the ability of a landscape to create strong visual image in the observer. Imageability is related to theories of – spirit of place, genius loci and vividness [7]. Word, "imageability," was developed by Kevin Lynch in his book, "The Image of the City" [5]. Imageability comes from visual aspects of the landscape. While it is usually used on local scale and needs field observation, some aspects can be defined by aerial photographs. In research fields, landscape indicators have only been used recently. It is important to understand that an indicator alone provides only little information, and it is valuable when an indicator is used together with a wider system, as each indicator is to have – representativeness, accessibility, reliability and effectiveness [2]. Indicators can be very variable, depending on what they aim, but in this paper, indicators are understood as "landscape metrics that highlight quantitative information regarding the landscape structure, characteristics and functionality" [10].

Usually indicators are used for big scale landscapes – state, planning region, etc. – to find differences and transformation in this territory, and to define its character [11, 14, 10]. In this research, it is necessary to clarify, if it is possible to use indicators for smaller territories, like local landscapes, to find specific features and landscape characters in each church landscape and to get some description together from these territories. The frequently used data sources are: land cover data, aerial photographs, landscape photographs and field observation [8]. Objectives of this research were:

1) to find appropriate indicators for small scale research territories;
2) to identify territory boundaries;
3) to recognize most valuable indicators.

It is important to understand the context of church landscape by examining how approximate the landmarks to other landmarks are, or whether there even is background.

TABLE 1
Definition used in paper [Source: construction by the author]

Term	Definitions
Landscapes	Are spatially defined units, whose character and functions are defined by the complex and region-specific interactions of natural processes with human activities that are driven by economic, social and environmental forces and values
Landscape character	Distinct, recognizable and consistent pattern of elements in the landscape that makes one landscape different from another, rather than better or worse
Indicator	A means devised to reduce a large quantity of a data down to its simplest form retaining essential meaning for the questions that are being asked for data

Materials and Methods

Imageability indicator method application for church landscapes was made as a part in expedition of churchyards of Latgale Upland. The expedition was carried out from June till October in 2011, where a survey of 68 churches in the Latgale Upland was conducted. It was made in good weather conditions during the daytime. From these objects, some were chosen randomly for imageability method, in order to mark out on each object landscape indicators that are seen on field observation. Nine square kilometers of orthophoto in scale of 1-to-10,000 were taken. "Google Maps" satellite map of Latgale Upland was used. On the map, indicators were marked by conditional symbols. It was important to start with the main road axis that leads to church. In expedition, emphasis was on churchyard elements [6], but here by imageability method, a connection is made on church with its surrounding context, and relationships between dominant and other landscape elements.

Results and Discussion

Out of 68 churchyards, observed in the expedition, imageability indicator method was chosen randomly for church landscapes. For the final research eight landscapes were observed altogether.

With the first attempts to use imageability method on orthophoto, it was clear that without field observation, it would not be possible to correctly identify indicators, landscape background and other possible landscape features and character. Main road axes are the starting point for each territory observation. Traveling by every possible road to the church, the elements were drawn and the viewpoints were noted. Visibility is the next step in defining landscape borders.

TABLE 2
Imageability method bases
[Source: construction by the author]

Concept	Indicators	Used Data source
Imageability	Spectacular, unique and iconic built features	Field observation together with ortophotos
	Landmark	Field observation
	Historical elements	Field observation together with ortophotos
	Density of viewpoints	Ortophotos

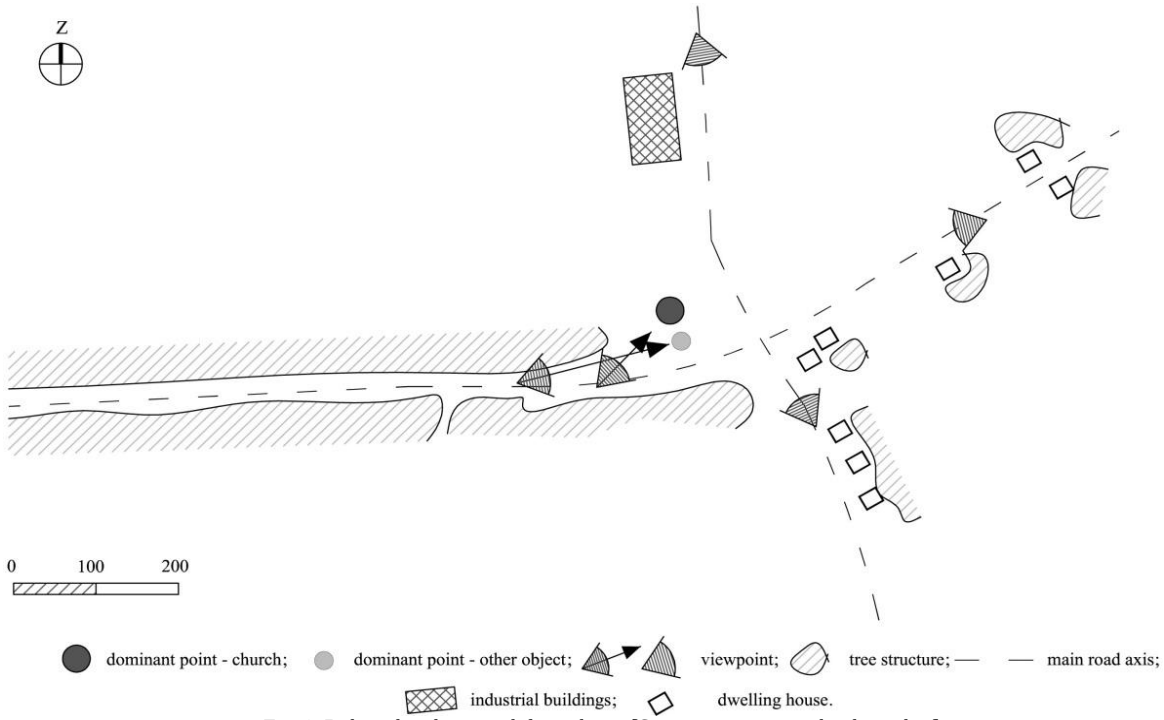

Fig. 1. Dubna church imageability scheme [Source: construction by the author]

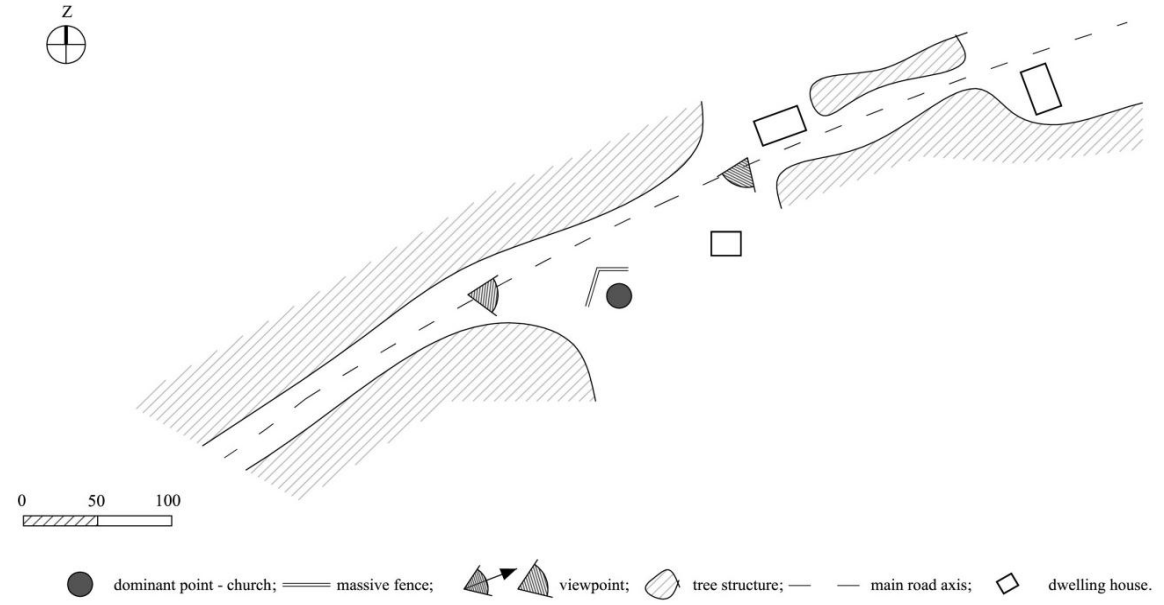

Fig. 2. Kovaļova church imageability scheme [Source: construction by the author]

In case of Dubna church landscape, no distant viewpoints were found. Close to the road there are not only forests, but also dense road side overgrows (Fig. 1). It is a similar case with the Kovaļova church landscape. There are some dwelling houses around the church with orchards and dense road side overgrows. Behind these elements there are big open spaces, but they cannot be seen (Fig. 2, 3). Use of only some indicators already gives image of this place and opens the church landscape character.

Piedruja church landscape has a noticeable negative effect of hidden landscape elements. Less than 100 meters from the Catholic Church is River Daugava, but because of overgrown river banks, we cannot see it. Landscape space penetrates between dwelling houses and small gardens behind them. Dwelling houses are not tall, but are placed close to the narrow road. It only allows very narrow views to church landscape dominants – churches (Fig. 4, 5, 6, 7).

The well-known church landscape in Latvia, Aglona basilica landscape, has a wide range of landscape indicators that could be used for describing landscape, starting with the simplest – church, crucifix, and adding water, massive fencing, and industrial buildings. Balance between relief, tree growing and building structure makes landscape more variable. The most distant viewpoint is almost two kilometers from the basilica (Fig. 8, 9). Relief can define not only the furthest viewpoints, but also the

closest view boundaries. For example, Ezernieki church is placed on steep relief elevation. Around this elevation there are high buildings and then comes a forest border. Landscape is squeezed in a small space with different elements. All landscape observation results in small distances and narrow views (Fig. 10, 11).

An interesting case of relief and tree growing combinations can be seen on Bērzgale church landscape. From the southern part, a church building opens in a distance more than one kilometer with tree coulisses on both sides. Then it disappears from the view and shows again after four hundred meters.

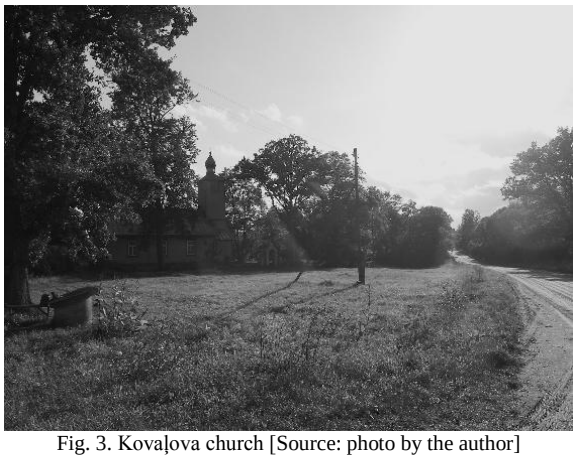

Fig. 3. Kovaļova church [Source: photo by the author]

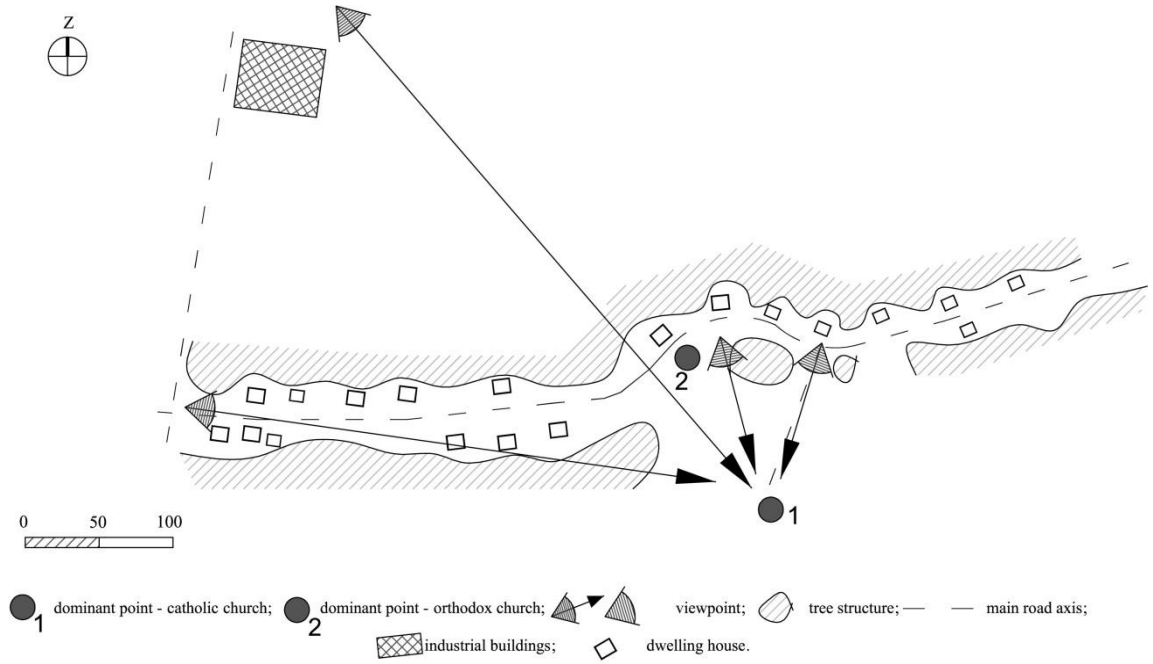

Fig. 4. Piedruja churches imageability scheme [Source: construction by the author]

Fig. 5. Piedruja church landscape [Source: photo by the author]

Fig. 6. Piedruja church landscape
[Source: photo by the author]

Fig. 7. Piedruja church landscape
[Source: photo by the author]

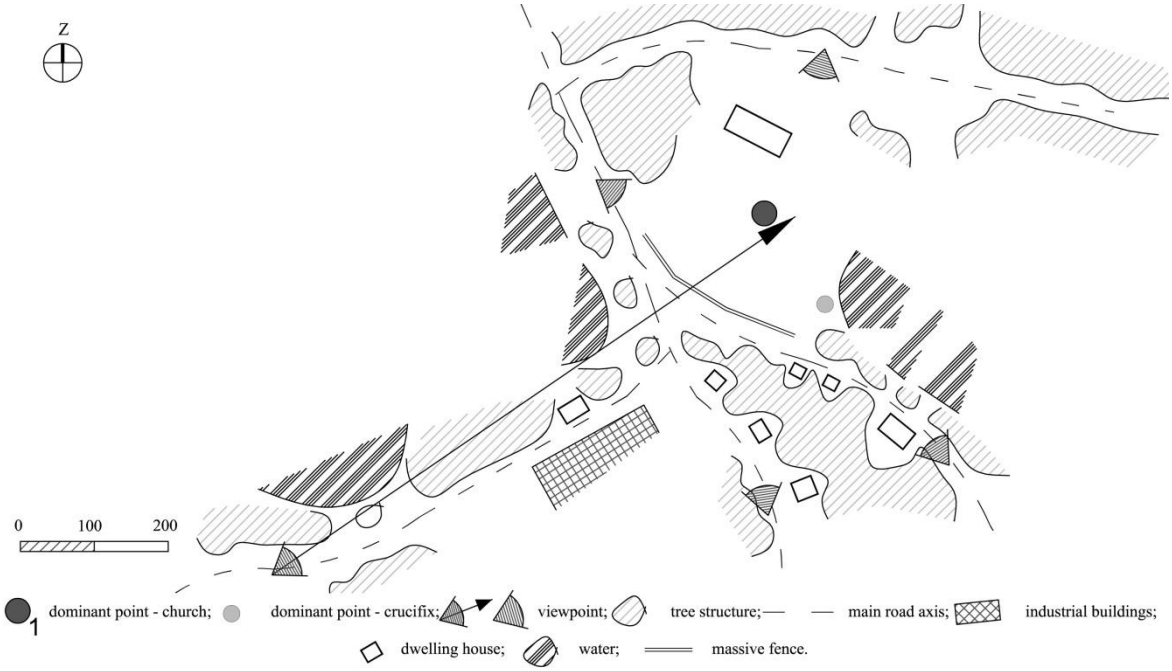

Fig. 8. Aglona church imageability scheme [Source: construction by the author]

Fig. 9. Aglona church [Source: photo by the author]

But from the east, growing trees are covering view at times and the church appears only in less than hundred meters' distance. On the map, there are lakes in and around the landscape, not too distant from the road, but in the field observation, we cannot see them due to the lake shore overgrowing (Fig. 12, 13).

Šķaune church landscape can be described as very narrow and extended. Almost all dwelling houses are one- or two-storied ones, but they have gardens around the houses, and big trees and shrubs growths on the side of the road. Because these houses are hidden from the view, the landscape forms into long green corridor. Also, the landscape has a surprise illusion. From a distance, it seems that we see a church, but in a closer distance, it becomes clear that it is only a free standing bell tower, and the church is a little bit deeper hidden among the trees (Fig. 14, 15). Complexity of different church landscapes can be determined by a number of the indicators used to define the image of this landscape, as well as by the element combination, and the scale of landscape.

It has become clear that not in all the cases a nine square kilometer big base map is needed. The base map size and scale depend on the landscape type and open spaces. In case of Andrupene church landscape, the most distant viewpoint is two and a half kilometers long. The view disappears just for a moment in close distance. In this landscape, a free standing bell tower stands as one more dominant point only in a closer distance of fifty to twenty-five meters (Fig.16). In the case of Andrupene, a need for generalized symbol for a dwelling house territory appeared, as it was felt as being integral. Use of the imageability indicators for characterization of the church landscapes of Latgale Upland clearly shows main differences. Landscapes differ by size, indicator, element intensity and complexity. Indicators for church landscapes in this research shape the basic description of church landscape imageability.

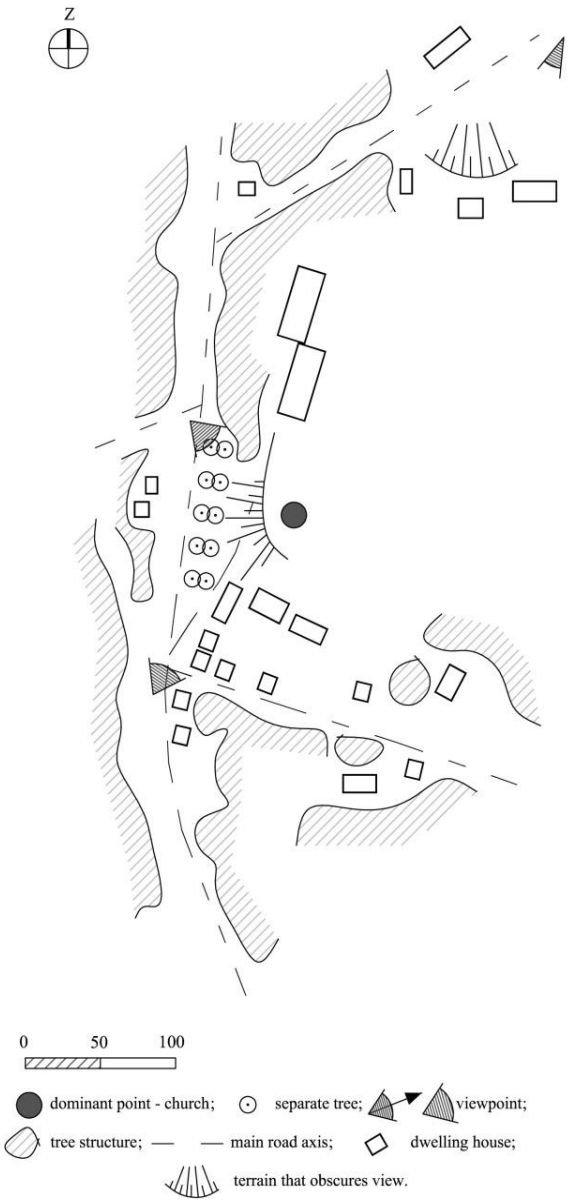

Fig. 10. Ezernieki church imageability scheme
[Source: construction by the author]

Fig. 11. Ezernieki church [Source: photo by the author]

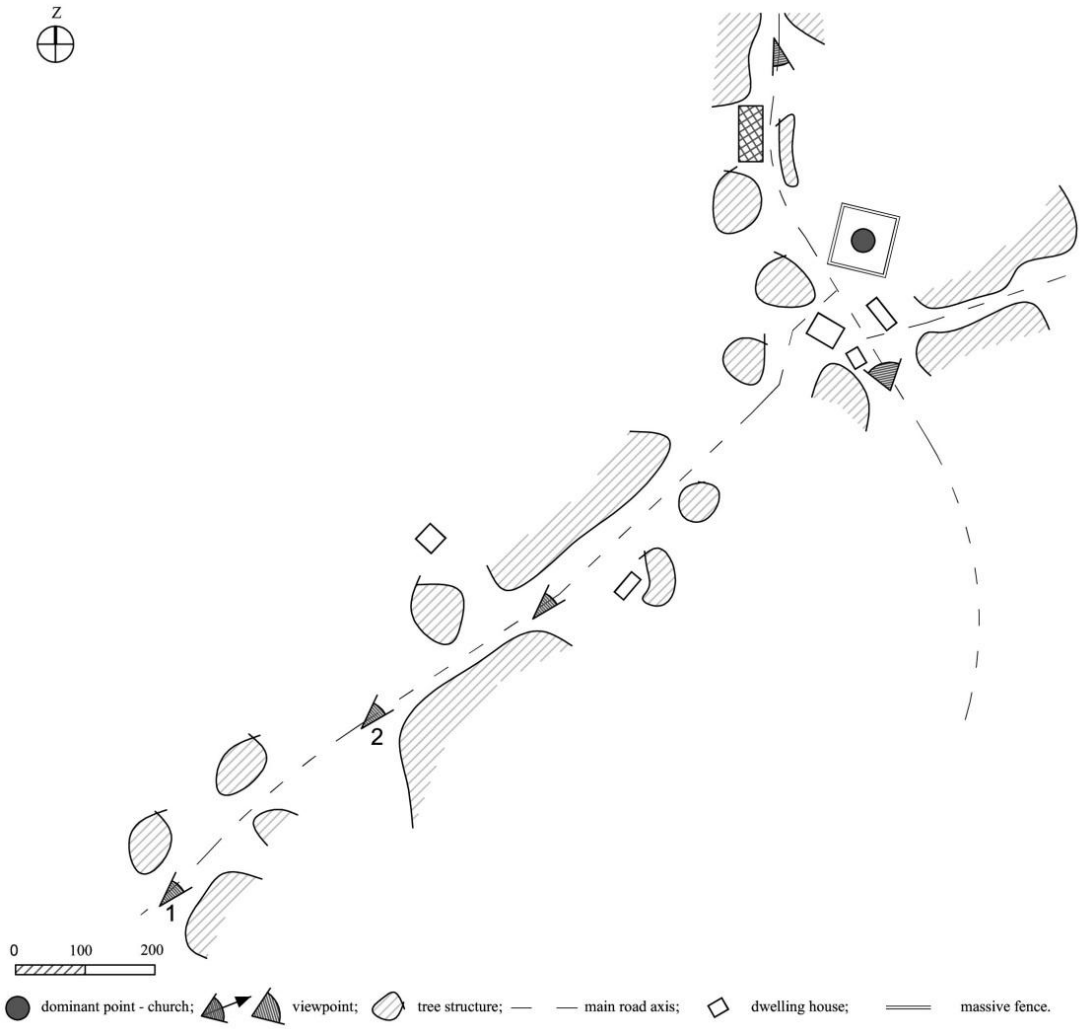

Fig. 12. Bērzgale church imageability scheme[Source: construction by the author]

Fig. 13. Bērzgale church [Source: photo by the author]

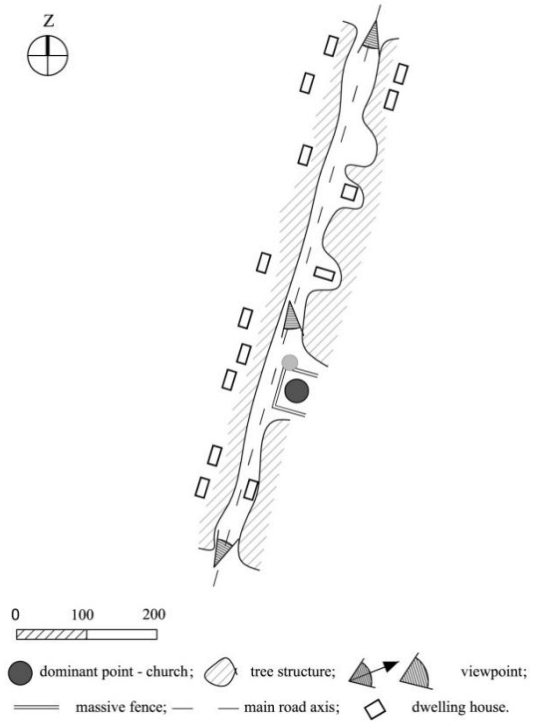

Fig. 14. Šķaune church imageability scheme
[Source: construction by the author]

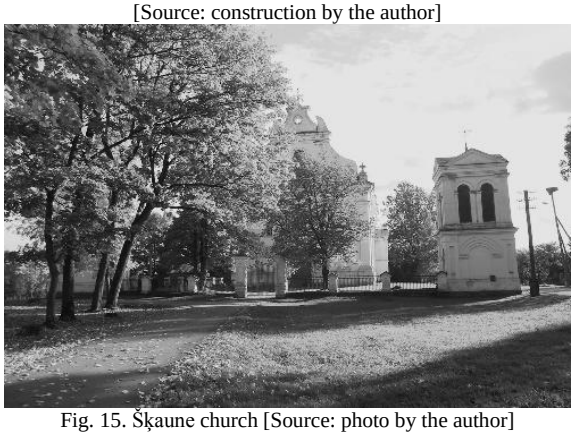

Fig. 15. Šķaune church [Source: photo by the author]

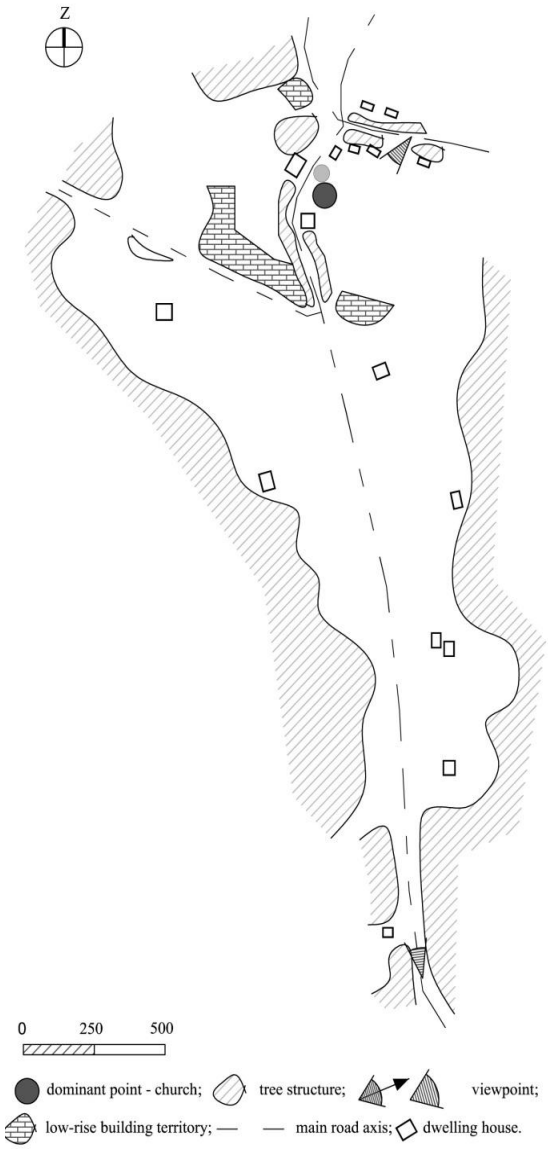

Fig. 16. Andrupene church imageability scheme
[Source: construction by the author]

Conclusions

Landscape indicators are important for capturing further landscape transformation process. The use of each method means examining the landscape in different ways. Each landscape has its own character and for each aspect, we can use the most suitable method.

Landscape size and intensity of indicators can be used as base for characterization of landscape and possible developmental means. In church landscapes, we can find a range of variable characters. One common indicator is road side trees and shrub growths, as are water and relief complementary indicators. The intensity of work done on building structures serves as indicator of people's presence.

For small scale research territories, more detailed and divided indicators need to be used. The height of dominants and other surrounding objects need to be included. This imageability depiction requires that two dimensions and third dimension need to be included. Territory boundaries may be identified easily in field observation, but they cannot be defined on maps. All indicators are usable and valuable.

Separate research is needed for defining the necessary steps for valuable landscape elements and characteristics preservation necessity. Landscape indicators on small landscape level have to be improved, in order to use them not only in research, but also in policy field.

Next step for this method is to list indicators, and to make more detailed characterization of each indicator in each case.

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Kopsavilkums. Kā pētījuma teritorija ir izvēlēta Latgales augstiene. Latgales augstienes teritorija ir bagāta ar izteiksmīgām ezeru un sakrālajām ainavām. Pētījums apraksta Latgales augstienes dievnamu ainavu caur ainavas vizuālā rakstura noteikšanu, izmantojot teorijā balstītus vizuālos indikatorus. Šis ainavas pētījums ir vērsts uz ainavas aprakstīšanu, neveidojot sadalījumu par to, kas veido ainavu, labāku vai sliktāku. Ainavas aprakstīšanas metodes un sistēma ir attīstījusies no rakstura noteikšanas Anglijā un Skotijā, ko ir izstrādājusi Lauku Apvidus Aģentūra (Countryside Agency). Rakstā uzsvars ir veikts uz „imageability" metodi un dažādiem ainavas indikatoriem. Dažādās zinātnes sfērās, ainavas indikatori tiek pielietoti tikai nesen. Pētījumā bija svarīgi noskaidrot vai ir iespējams šādus ainavas indikatorus pielietot mazām ainavas teritorijām. „Imageability" indikatoru metode tika pielietota dažās Latgales augstienes dievnamu ainavās, kuras tika izvēlētas pēc nejaušības principa. Izmantojot „imageability" metodi uz satelīta kartes ir noteikti nepieciešams veikt arī apsekojuma lauka darbus. Vietas apsekošanas dabā ir nepieciešama, lai precīzi noteiktu indikatorus, ainavas robežas, fonu un citas iespējamās ainavas iezīmes un raksturu. Pamata kartes izmērs un mērogs ir atkarīgs no ainavas tipa un atvērtajām telpām tajā. Ainavas telpas izmēri un indikatoru blīvums var tikt pielietots kā pamats ainavas raksturošanai un iespējamiem attīstības veidiem. Dievnamu ainavās ir iespējams atrast lielu ainavu raksturu dažādību.