

A DEVELOPMENT PLAN FOR THE SOUTH-EASTERN PART OF PAG ISLAND WITH AN EMPHASIS ON OLIVE-GROWING

RAZVOJNI PLAN ZA JUGOISTOČNI DIO OTOKA PAGA S NAGLASKOM NA MASLINARSTVO

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Regardless of the fact that the traditional usage of rural landscapes was agricultural, a degradation of landscape values, as well as an onset of natural succession, occur due to contemporary lifestyle. This can lead to negative effects regarding land-use change. This paper focuses on the south-eastern part of Pag island and explores the possibilities for the revitalisation of its neglected areas by envisioning its future development as an olive-growing region. The final goal was to define a planning procedure framework which would enable the creation of a strategic vision to be transformed into a comprehensive spatial development strategy for the research area. This area encompasses the territory between Kaštela in the north-west and the Pag's bridge in the south-east which administratively belongs to the Zadar County and includes the Town of Pag, and the Kolan and Poveljana municipalities.

Olive-growing has been recognized as the strategic choice for development because of its tradition in the area and the potential integration with other relatable activities. Based on the SWOT analysis, an appropriate mission, a vision and strategic goals were defined for developing Pag as an olive-growing region. Further landscape planning methods included (1) the Lynch mapping analysis, (2) the Forman and Godron landscape ecology analysis and (3) the landscape pattern analysis. The results were then used together with digital orthophoto imagery to overlay and analyse relevant information. Hand drawings as well as AutoCAD, ArcGIS and image editing computer programmes were used in the process.

This analytical phase was then followed by the development of several alternative spatial zonings, diagrams and concepts based on a preferable neighbourhood matrix and the activity sizing table. The planning process resulted in a concept for spatial development of the research area which would enable the implementation of the strategic vision. The main goal of this planning procedure was to preserve and improve the rural landscape of Pag island.

Keywords: rural landscape; rural development; strategic spatial planning; revitalisation; olive-growing

Introduction

Olive-growing and the production of olive oil have been a characteristic activity of mankind throughout history. Olive trees are widespread across the Mediterranean and are woven into the mythology and history of many countries (GRKOVIĆ, 2005). Olive-growing has a significant meaning within social, economic and environmental context in Croatia. Therefore, its

revitalisation represents a vast potential for the development and restoration of coastal and island living, as they are areas with adverse economic conditions (GUGIĆ ET AL., 2010).

Olives and olive-growing, as well as traditional production of cheese and lace, are an important characteristic of Pag island. The combination of centuries-long anthropogenic impacts (agriculture, pastures, felling) and adverse climatic conditions (severe winds from the Velebit Canal) has turned

the island's surface into one of the barest areas in the Adriatic (BUTULA ET AL., 2009). Thus, it is often said that it resembles the surface of the Moon. The abandonment of traditional agriculture and livestock farming in the modern day has resulted in most of the agricultural land being left to natural succession, with remnants of a once rich agricultural production still visible in the remaining traditional dry stone walls.

This paper shows the planning process of creating a spatial development strategy on the example of the south-eastern part of Pag island, which includes strategic, spatial and landscape planning, and consists of planning analysis and synthesis. The analytic procedure includes the setting of a mission, a vision and strategic goals based on a SWOT analysis. By defining relevant problems, goals, trends and conducting spatial analyses, the compatibility of development goals and the current state of the area was evaluated. Based on the analytical results, alternative spatial diagrams and concepts were developed as synthesis and the concept evaluated as the optimal one was then used to create a spatial organisation plan for several activities, for which spatial development guidelines were set afterwards.

Review of previous investigations

With the surface area of 284.56 km² Pag is one of the largest Croatian islands. It is 58.25 km long and extended in the NW-SE direction (FARIČIĆ, 2003). The climate is moderately warm and humid with hot summers (Cfa) and the most notable climatic modifiers are the thermal influence of the sea and the cold wind impact (bora) from the direction of Velebit (LONČAR, 2009) which affects not only the climate but also the vegetation cover and everyday activities of the islanders (FARIČIĆ, 2003). A significant number of coastal (fresh, salt or brackish) mostly periodic water springs, along with the climate, mostly carbonate rock complex and a significant tectonic predisposition of the island, are the cause of karst relief forms (LONČAR, 2009).

Pag is located on a symbolic line between Dalmatia (South Croatian Littoral) and the Littoral (part of the North Croatian Littoral) in an area marked by significant administrative changes in the past, the last of which took place in 1997, making Pag the only Croatian island divided between two counties (MIROŠEVIĆ, VUKOSAV, 2010). The northern part of the island (Town of

Novalja) belongs to the Lika-Senj County and the central and south parts belong to the Zadar County (the Town of Pag and the municipalities of Kolan and Poveljana) and are the research area of this paper (Fig. 1).

According to the data from the most recent census, the total number of island residents in 2011 was 9,059, with 5,396 residents living in the research area, which makes 59.56% of the total island population. There were 2,704 women and 2,692 men which indicates a balanced gender structure. The census also identifies 3,495 working age residents (64.77%) and 1748 residents over 60 years of age (32.39%) (URL 1). The natural increase in 2008 shows a negative demographic trend with the number for the Town of Pag being -20, the Kolan municipality -3 and the Poveljana municipality -7 (*Županijska razvojna strategija Zadarske županije, 2011-2013*, URL 6).

In the past 10 years, the island and its surroundings have been marked by social changes such as negative demographic trends, abandonment of agriculture as the dominant activity and the strengthening of tourism (BUTULA ET AL., 2009). According to Magaš (2000) the number of overnight stays in 1990 was 22,000 and in 2000 it increased to 600,000. A constant growth followed and the number of overnight stays was 1,864,000 in 2012 and 1,955,000 in 2013 (URL 4).

Olive-growing is a branch of agriculture with a more than 2,000 year old tradition in Croatia (PERICA ET AL., 2010) and represents a significant economic potential in the agricultural production of Croatian Mediterranean region. According to Gugić et al. (2010) the olive is the most widespread fruit tree in the Mediterranean agro-ecological region, which is confirmed by the Croatian Bureau of Statistics' data. The data show a continuous increase in agricultural land used for olive-growing (15,304 ha in 2009, 17,096 ha in 2010, 17,200 ha in 2011, 18,100 ha in 2012, 18,590 ha in 2013) (URL 2). Olive groves covered 2,727 ha in Zadar county in 1999, and 3,636 ha in 2010 (*Županijska razvojna strategija Zadarske županije, 2011-2013*, URL 6). According to Magaš (2000) they covered only 169 ha of island Pag in 1991.

As a term, planning represents a process by which technical knowledge is implemented into activities of the public domain (FRIEDMANN, 1987), resulting in documents, plans, strategies and other specific *outputs* (CARSEJENS, 2009). In a spatial context, it is a process of optimal allocation of people, goods and activities in a certain area with

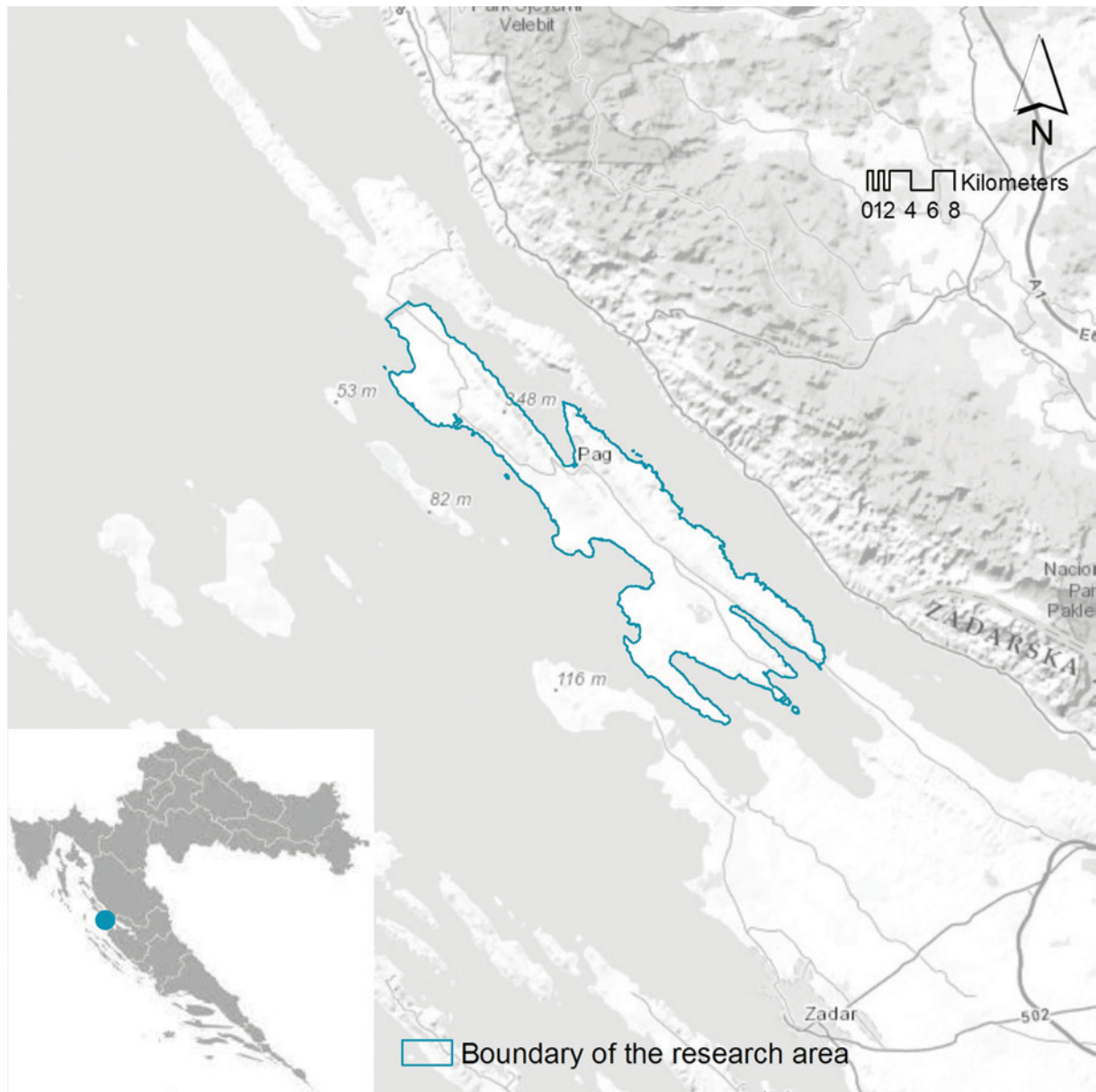


Figure 1 Geographical position of Pag island

a goal to optimise the way it is used (MARINOVIĆ-UZELAC, 2001). By doing so, a spatial plan in traditional land-use planning ensures that an unwanted activity will not appear in an area for which it is not defined, but does not guarantee that a desired activity will develop in an area where and when it is needed (ALBRECHTS, 2004). The need for the development of an activity in a specific area can be predicted by applying the strategic approach to planning which reduces the level of insecurity in the spatial planning process and includes the cooperation between different sectors (SARTORIO,

2005). Strategic spatial planning is especially important in areas which interest different stakeholders with conflicting goals in order to define a strategy for the realisation of balanced and focused future development (ALBRECHTS, 2004). The challenge to fully implement strategic spatial planning as defined by Albrechts was beyond the limits (organisational, institutional and financial) of this research and therefore we have mainly focused on its first track, constructing a long-term vision which represents the values and significance for the future development of the researched area.

The spatial development strategy of a specific area is an instrument used to *direct spatial development and determine the organisation, use and protection of a certain area* (URL 3), which inevitably affects the everyday users of that area as well as the environmental processes. Strategic planning implies the process of determining long-term development goals for a certain area by identifying the most effective way for their realisation and by anticipating possible problems which may arise along the way, as well as solutions for them (ČULJAK, 2000). Defining a mission for an area also determines what the area currently is by analysing its advantages and weaknesses in the context of its possibilities and threats, and defining a vision also determines what the area could be in the future (ALBRECHTS, 2004). As Albrechts (2004) points out, strategic frameworks and visions for territorial development, with an emphasis on place qualities and the spatial impacts and integration of investments, complement and provide a context for specific development projects and also have the potential to rescale agendas down from state level and up from municipal level. The outcome of strategic planning systems is dependent on a system itself and the conditions underlying it (MINTZBERG, 1994 in ALBRECHTS, 2004). They, along with attitudes towards spatial planning and institutional political will, consequently affect the implementation of chosen strategies by the planning systems themselves. Even though the strategic planning process, as perceived by Albrechts, is an alternative to the traditional land-use planning, it could also precede the spatial planning process, in which case strategic planning would allow the optimal development and conservation of a certain area and make the consideration of alternative directions of development possible. Spatial plans as the subordinate regulations would then implement developmental goals and the chosen strategy.

Salet and Faludi (2000), Healey (2004), Carsjens (2009), Allin and Walsh (2010) as well as Olesen (2011) are only some of many authors who point out that government institutions of European countries are beginning to recognise the necessity of changing the approach to spatial planning and emphasize the importance of long-term planning in order to achieve sustainable development. They also point out the advantages and disadvantages of strategic consideration of future development and offer guidelines and solutions. One of the solutions lies in the coordination and compromise between professions which deal with spatial planning (planners,

urbanists, landscape architects and architects, geographers, sociologists, demographers, economists, geologists, pedologists, agronomers, foresters, geodesists and others), conservation of biodiversity (biologists, ecologists and landscape ecologists), decision makers, stakeholders and, naturally, occupants of areas in question.

Methods and materials

The planning process applied in this paper consists of several planning procedures (strategic, spatial and landscape) and can be divided into two key phases. The phase of planning analysis includes detailed research of landscape qualities (natural, cultural, visual), as well as the potential for development of the area. Based on a SWOT analysis a strategic vision was determined along with several activities which would improve its realisation. By applying the Lynch mapping method and conducting the Forman-Godron ecological analysis as well as the landscape pattern analysis, the possibilities and limitations for development of the area have been explored. The phase of planning synthesis implied the creation of a part of the spatial development plan for the research area through overlaying the results of spatial analyses obtained during the analytic phase with the results of conducted spatial and dual analyses (which considered development and protection aspects) and the chosen concept.

The process of strategic development consideration began with the creation of a SWOT analysis - researching and analysing the islands' specific characteristics which distinguish it from other areas. This was conducted by analysing its strengths, weaknesses, threats and opportunities. Olive-growing was set as a priority and given a role of bearer of the vision for development considering its extremely long tradition in the research area which, despite many obstacles, still represents a vast potential for development. Other activities with existing interests for development have also been defined and prioritised according to their ability to provide assistance for future improvement of olive-growing. Those activities are permanent housing, hotel complex, nautical tourism, camp, weekend housing and wind farms. The definition of a mission and vision for development directed the next steps in the process and was used to set fundamental strategic goals and sub goals.

Spatial analyses included the Lynch mapping method, the Forman-Godron ecological analysis and the landscape pattern analysis and were used to identify significant visual, ecological and structural elements of the area which needed to be kept in mind. The analytical phase was followed by the planning synthesis during which alternative spatial zonings, diagrams and concepts for spatial development of the area were developed in accordance with the preferable neighbourhood analysis and information on activity sizing. The concept which satisfied the most conditions was chosen as optimal and overlaid with the landscape suitability analysis results for the predefined activities.

The suitability analysis is the result of the dual spatial analysis during which the results of the landscape attractiveness and vulnerability for specific activities are overlaid in order to harmonise developmental and protective interests. As Koščak Miočić-Stošić et al. (2010) state, landscape vulnerability models help to identify sensitive areas where future development is to be limited or prevented, while landscape attractiveness models help to identify areas where development is desirable. This way development interests and the need to protect existing landscape qualities are balanced (KOŠČAK MIOČIĆ-STOŠIĆ ET AL., 2008). Based on the landscape suitability models, the area was evaluated on three aspects (protective, development, compromise) and the most suitable areas were chosen depending on the location and activity. During the landscape evaluation from the protective point of view, an emphasis was given to protective aspects, as opposed to the landscape evaluation from the developmental point of view, where developmental tendencies were valued as more significant. As a compromise, the landscape evaluation considered both protection and development elements equally important. Based on the chosen concept and landscape suitability models the locations of spatial units for each activity were determined.

Steps in conducting of analyses and map drafting included overlaying digital spatial data, hand sketching and drafting, use of GIS programmes (ProVal, ArcGIS), AutoCAD, as well as additional data editing and interpreting programmes.

Results

Analytical procedures

The SWOT analysis of Pag island (Tab. 1) showed that the research area has more strengths and opportunities than weaknesses and threats. It also identified olive-growing as the activity with the most potential for being the foundation for future development of the area, while simultaneously enabling the protection of the existing landscape qualities. Based on the obtained data a set of strategic goals was defined, determining the development of olive-growing as a key identity feature of the island, the entire coastal region and the country. The goals refer to setting up new olive orchards with indigenous cultivars and the preservation of the existing ones, the production of high quality ecological consumer olive and olive oil products, the constant market presence and competitiveness, educative and creative tourism, organisation of olive trails and tourist harvests and the promotion of olive production through national and international fairs and workshops, all of which enables the realisation of the strategic goal - the preservation and enhancement of the cultural landscape of Pag island.

The starting points for development planning of the area were based on a mission and a vision. The mission refers to the research area being rich with tradition and having potential for olive-growing and the need for the continuous contribution to its development and enhancement to be organised on two levels. The macro level considers economic agricultural efficiency, development of new technologies and their incorporation with traditional methods of olive-growing and processing. The micro level focuses on world renowned production of various olive products and the development of a worldwide respected brand name. The vision is based on a competitive, recognisable and respectable product offer on local and global levels and a local production. The strategic goal is the improvement of technical knowledge and practical skills by educating new generations about the value of olive-growing and the need for its development and protection, as well as merging the new know-how's with the traditional practices in order to create areas which would conserve cultural landscape qualities of the island and olive products with specific identity characteristics.

The internationally accepted definition of landscape, adopted into Croatian legislation through the *Confirmation of the European*

Table 1 The SWOT analysis of Pag Island

STRENGTHS	WEAKNESSES	OPORTUNITIES	THREATS
<ul style="list-style-type: none"> road and ferry connection with the mainland 	<ul style="list-style-type: none"> the influence of colder continental climate 	<ul style="list-style-type: none"> selective forms of tourism 	<ul style="list-style-type: none"> areas of illegal construction
<ul style="list-style-type: none"> humid subtropical climate with hot summers (Cfa) 	<ul style="list-style-type: none"> exposure to strong winds 	<ul style="list-style-type: none"> development of activities related to the exploitation of the sea and coast (fishing, nautical tourism, sailing ...) 	<ul style="list-style-type: none"> uncontrolled apartment renting
<ul style="list-style-type: none"> small relief dynamics and large indented coastline 	<ul style="list-style-type: none"> insufficient and inadequate transport system (internal and external) and utilities (water supply) 	<ul style="list-style-type: none"> authentic products (lace, cheese) 	<ul style="list-style-type: none"> seasonal employment
<ul style="list-style-type: none"> preserved nature (ornithological reserve, clear water, great biodiversity on land and sea) 	<ul style="list-style-type: none"> lack of educational institutions 	<ul style="list-style-type: none"> central position in the Adriatic 	<ul style="list-style-type: none"> 32,39% of elderly population
<ul style="list-style-type: none"> diverse cultural heritage (dry stone walls, settlements, archaeological sites, salt pans) 	<ul style="list-style-type: none"> territorial affiliation to two counties 	<ul style="list-style-type: none"> proximity of a major urban center (Zadar) 	<ul style="list-style-type: none"> sporadic higher sea pollution
<ul style="list-style-type: none"> traditional crafts and indigenous products 	<ul style="list-style-type: none"> elongated shape of the island 	<ul style="list-style-type: none"> development of a specific form of stone treatment 	<ul style="list-style-type: none"> mass tourism
<ul style="list-style-type: none"> developed cattle breeding 	<ul style="list-style-type: none"> non-permanent connection to the mainland 	<ul style="list-style-type: none"> rare archaeological sites (ancient aqueducts, mosaic, an early Christian basilica in Novalja) 	<ul style="list-style-type: none"> greater distance from the highway
<ul style="list-style-type: none"> recognized tourist destination 	<ul style="list-style-type: none"> neglect of many traditional crafts 	<ul style="list-style-type: none"> olive plantations of Lun 	
<ul style="list-style-type: none"> authentic cuisine 	<ul style="list-style-type: none"> steep coast 	<ul style="list-style-type: none"> constant increase in overnight stays 	
<ul style="list-style-type: none"> off-season sports and recreational activities 	<ul style="list-style-type: none"> advertising focused solely on apartment and entertainment tourism 		
<ul style="list-style-type: none"> 64,77% working age population 	<ul style="list-style-type: none"> most of the island covered with limestone with no vegetation 		

Landscape Convention Act (Zakon o potvrđivanju Konvencije o europskim krajobrazima, NN MU 12/02, URL 5), defines the landscape as *an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors*. The perception of landscape is an important element of the spatial planning process because landscape qualities which affect perception can manifest in various ways. They can be divided into natural (without human influence) and semi-natural ones (influenced by humans), and can also be the result of a visual perception of a specific area by an individual observer.

The Lynch mapping method is a spatial analysis which relies on the way individuals experience and perceive a specific area (LYNCH, 1960). It identifies five types of visual elements: districts, paths, edges, nodes and landmarks. Regarding the research area, landmarks refer to salt pans, many archaeological sites and wind turbines in the north-east. Nodes refer to settlements situated at crossroads or along the west coast. Natural protected areas and smaller bodies of water take up a small amount of the area and do not have a significant impact on the perception of the karst area. The central part of the research area is mostly covered in agricultural land and salt pans, stretching in the direction of the main road. In conclusion, the development of olive-growing could enhance the perceptive and experiential component of the cultural landscape and would not affect the views to and from the mainland negatively.

The Forman-Godron ecological analysis shows that the landscape structure of the research area consists of various landscape elements or ecosystems which can be natural, anthropogenic and a combination of both (DRAMSTAD ET AL., 1996). Basic elements of the eco-structure are the dominating *matrix* of grassland and macchia; *patches*, which apply to forests, surface waters and burnt areas; and *corridors*, which form linear areas influenced by human activities. In conclusion, the area is highly natural, with semi-natural elements separating the natural structure into three distinguished parts.

The landscape pattern analysis is a method of spatial planning and organisation which displays the current organisation of spatial elements and their mutual relations. The research area contains the following categories of patterns: primary – natural (grassland, macchia, barren land, forests and bodies of water), secondary – anthropogenic (settlements, agricultural land, roads and salt pans), tertiary – aesthetic/artistic (compositions of

agricultural land and dry stone walls, patterns of salt pans and layouts of tourists settlements) and quaternary – archetypal (general, distinguishing, universally applicable models and patterns) in the form of layouts of urban, weekend, rural and tourist settlements (TURNER, 1991). The identified patterns were further explored in the context of their correlations. Based on the predefined goals, the most significant was the agricultural land pattern linked to settlement patterns, spreading in the direction of the island elongation and along the roads, sharing borders with natural areas and creating the transition toward the areas influenced by humans. Most of the agricultural land is situated on flat terrain (0–2°) and the rest on gently (2–5°) and moderately (5–12°) inclined terrain. Agricultural land can be found between 0-50 meters and the rest up to 100 meters in the north-western part of the area. The agricultural land and natural vegetation mosaic cover most of the area, followed by neglected agricultural land and the agricultural land mosaic in the smallest percentage. In conclusion, most of the area used for agriculture is unattended, especially on steeper terrain and higher elevation and the degree of neglect increases with the distance from settlements and roads which results in the degradation of the characteristic landscape pattern of the area.

The *preferable neighbourhood analysis* was used to define priorities and distances among the predefined activities, as well as the number and size of units necessary for each activity. In accordance with the vision, olive-growing is the primary activity and all the rest follow by the level of their significance for the realisation of the vision for development (permanent housing, hotel complex, nautical tourism, camp, weekend housing and wind farm). Within a 2 km radius from olive-growing areas permanent housing is necessary because farming activities depend on permanent local residents. Within a 3 km radius, tourism related activities (hotel complex and nautical tourism) would be appropriate because tourists are the primary target group for tourism related aspects of olive-growing, which makes these activities connectable with each other. The secondary target group includes campers and weekend residents so those activities should be located within a 4 km radius. The considered location of wind farms should be at a distance larger than 4 km because the current public attitude towards this issue is rather negative. There is a possibility that this could change, depending on the results of a survey in the area, if such a survey were to be conducted.

Synthesis

Based on the predefined vision for the development of the area, the results of spatial analyses and the development programme, zoning possibilities were explored by linking and situating mutually supporting activities in the vicinity of the existing areas relevant for them. The planning process also included the creation of alternative diagrams and development concepts (Fig. 2).

The chosen concept places all activities linked to permanent housing along the island and in combination with tourism related activities, mostly along the west coast with access to the east

and south coast. Other activities are linked to the already existing wind turbines, with links formed on frequent nodes and contact zones with reliable activity groups (olive-growing and tourism).

The spatial modelling procedure (Fig. 3) for each individual activity involved calculating and overlaying landscape attractiveness and vulnerability models and resulted in three suitability models (development, protection and compromise). Every model was graded from 0 to 5, depending on the attractiveness, vulnerability and suitability of different parts of the research area.

In the process of determining the spatial organisation of activities (Fig. 4) the most

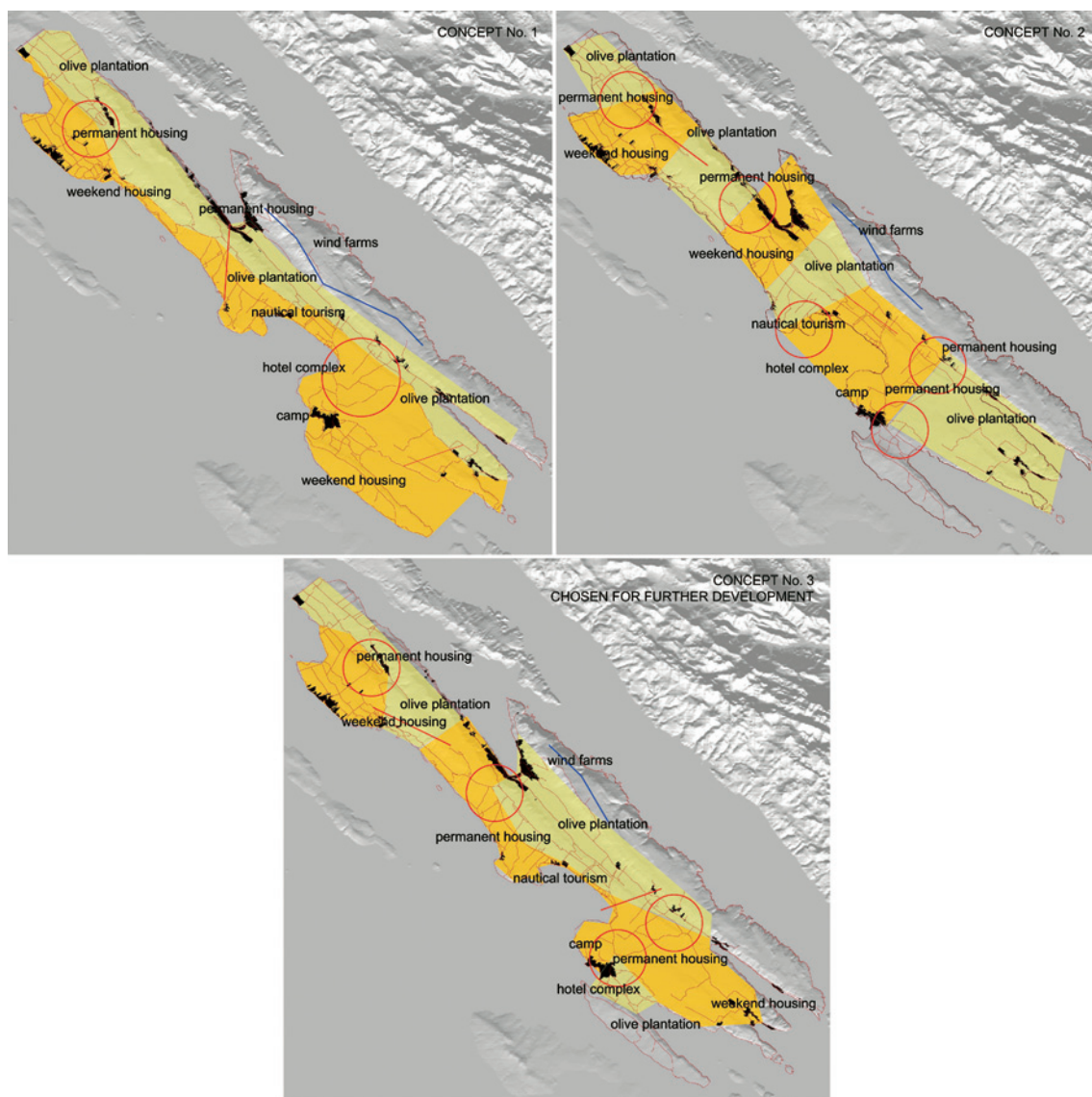


Figure 2 Spatial concept alternatives

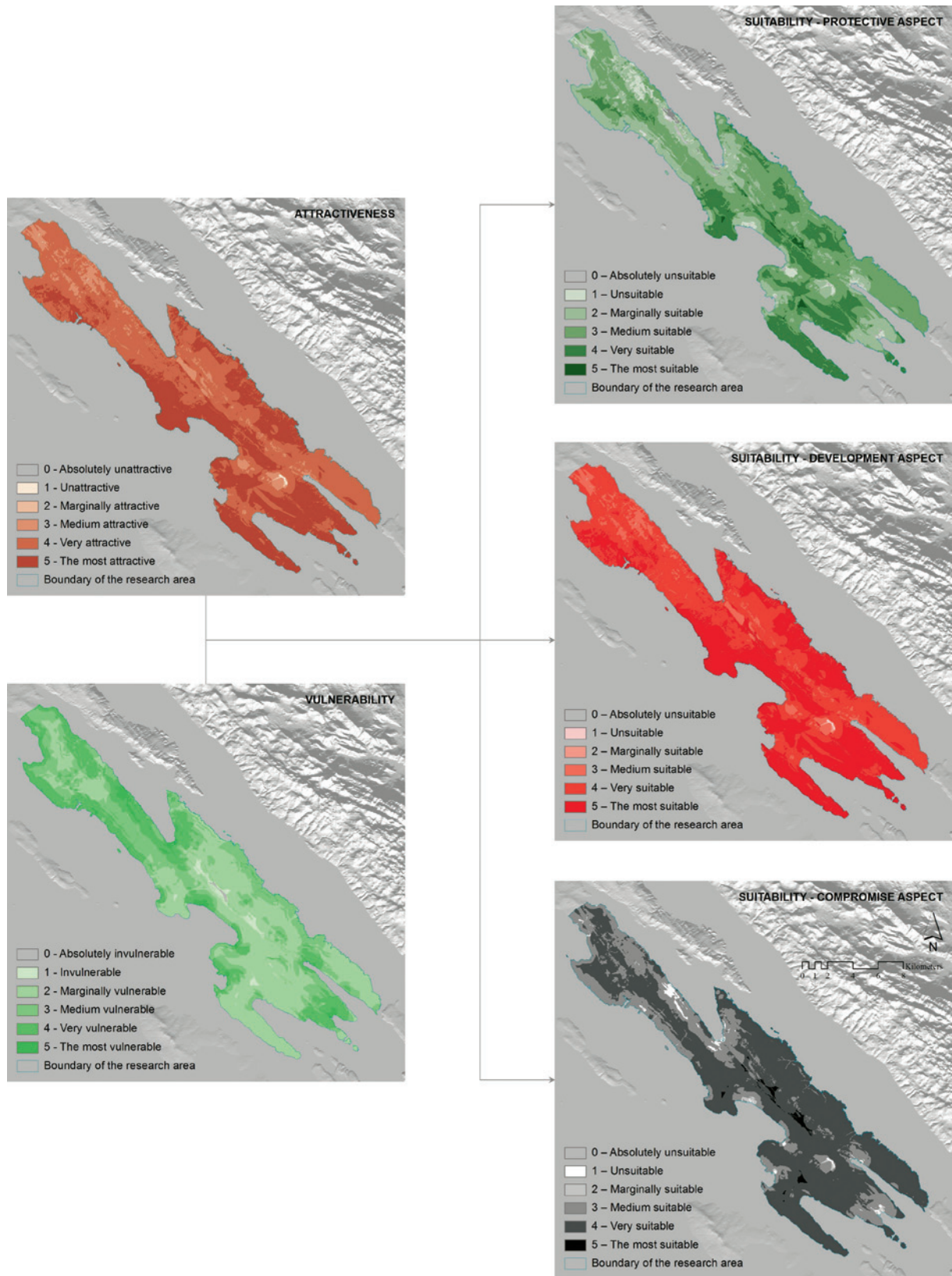


Figure 3 Landscape suitability modelling procedure on the example of olive-growing

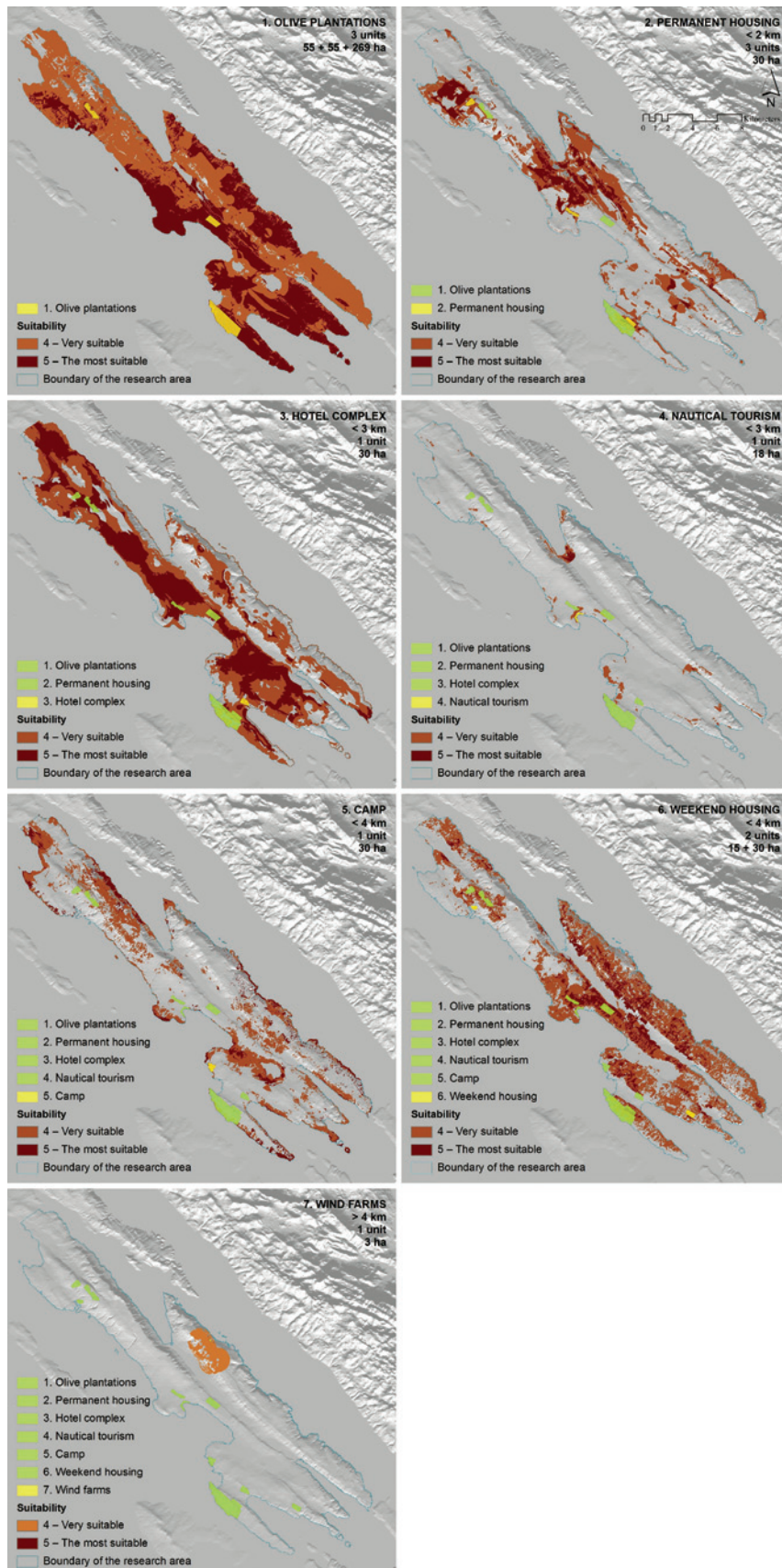


Figure 4 Spatial organisation process

suitable locations for each activity were chosen by overlaying the optimal concept with the appropriate suitability model. Within each suitability model only areas valued as the most suitable and very suitable were considered. For the purpose of successfully developing the fundamental idea of an olive-growing region, the developmental aspect of the suitability model was used for olive-growing and permanent housing, while the compromise aspect of the suitability models was used for all other activities.

Three spatial units were planned for olive-growing as the primary activity. Unit 1 takes up 55 ha of the former agricultural land with visible remains of traditional dry stone walls. It is located at an elevation of 200 m and the vegetation cover consists of low plants. Unit 2

also takes up 55 ha. It is located at an elevation of 300 m. The remains of traditional dry stone walls in the area indicate it was used for agriculture and is now mostly covered with macchia. Unit 3 takes up 269 ha and is located near the coast at an elevation of 60 m. The vegetation cover is mostly macchia with a visible irregular pattern of traditional dry stone walls.

Unit 1 of permanent housing takes up 30 ha, at an elevation of 150 m, on moderately inclined terrain and a vegetation cover mostly consisting of macchia. Unit 2 also takes up 30 ha at an elevation of 30 m, on a moderately inclined terrain with visible remains of traditional agriculture and low vegetation. Unit 3 takes up 30 ha as well, at an elevation of 50 m, with mostly low plants and barren land on a moderately inclined terrain.

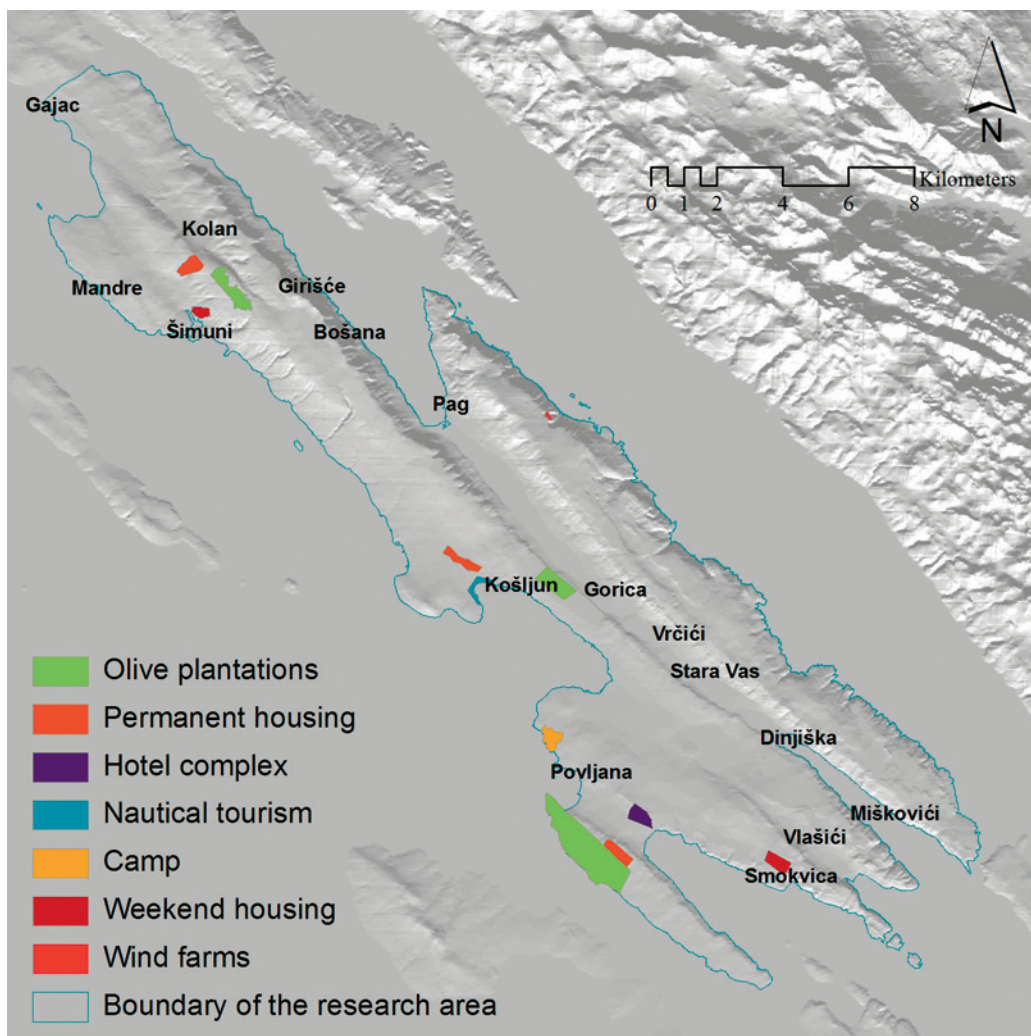


Figure 5 A proposal for the spatial development plan of the south-eastern part of Pag island

The spatial unit designated for tourism related activities (hotel complex) takes up 30 ha at an elevation of 30 m, on flat terrain and mostly agricultural land. The nautical marina takes up 18 ha along the coastline on flat terrain mostly covered with macchia. The camp site takes up 30 ha near the coast at an elevation of 10 m, on a flat terrain covered with low vegetation and a few forest patches.

Weekend housing is planned on Unit 1, which takes up 30 ha at an elevation of 30 m, on a moderately inclined terrain mostly covered with macchia and Unit 2, which also takes up 30 ha at an elevation of 50 m, on a gently to moderately inclined terrain and the vegetation cover of mostly macchia and barren land.

The spatial unit of the wind farm takes up 3 ha on the north coast near the existing wind turbines at an elevation of over 250 m, on a very steep terrain, that is mostly rocky with scarce vegetation.

The result of the spatial organisation process is a plan for the development of the research area (Fig. 5) which shows optimal locations for units of each individual predefined activity on the south-eastern part of Pag island.

Conclusion

In rural areas suffering from an increasing pressure of deagrarianisation resulting in fragmentation of agricultural land due to natural succession, Freeman (2003) emphasises the importance of the strategic approach to spatial planning as future-oriented and recognises the importance of a landscape with mutually dependent anthropogenic and natural elements. Therefore, it is necessary to consider a wider context of development within the planning process instead of keeping the focus on a single activity. In order for the development of Pag island as an olive-growing region to be the most effective and the determined mission, vision and strategic goals successfully implemented, it is necessary to base the development of the region on a spatial plan which would take all predefined activities and spatial organisation guidelines into consideration. In addition, it is crucial for government institutions and local communities to provide their support.

The goal of this paper was to define the methodological framework for the planning

process which would include strategic thinking of future development of rural areas and would be implemented in land-use planning. The methodological procedure was tested on the south-eastern part of Pag island by drafting a development plan with an emphasis on olive-growing as the main feature element of the region's development, based on a series of beneficial spatial qualities and conditions. The locations for each activity and their correlations have been determined through several analytic procedures that served as the foundation for setting up a concept and specifying a plan for the development of the area.

The proposed development plan shows that most of the activities provide contents which overlap and could be linked to each other in a way that the development of one activity would improve the development of the others, thus optimising the entire process. This could be achieved by grouping mutually supportive activities in several smaller development zones, as this plan showed. By doing so, the cost of investment into necessary infrastructure could be reduced and it could be easier to find suitable locations. This is especially important in rural areas rich with protection worthy natural values which often represent an identity characteristic of a wider area, an entire region or even a country. Based on the abovementioned information, the following conclusion can be made: for the future development of Pag island to be effective, it is vital to cross the limits of municipal spatial boundaries and direct the strategic planning process to regions with similar characteristics and potentials for development.

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