



## "THE OTHER SIDE OF THE ZAGREB – RIJEKA MOTORWAY": SOCIO-GEOGRAPHIC IMPLICATIONS IN THE RURAL PERIPHERY OF CROATIA

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From the mid 1990s Croatia has become one of the largest road construction sites in Europe. In addition to numerous positive effects of the building of motorways there are also negative consequences which are less obvious. The goal of this study was to research the socio-geographical implications of the opening of the motorway Zagreb – Rijeka in the central part of Gorski kotar. The study focused on settlements situated along the old road connecting Zagreb and Rijeka and tested the hypothesis that they have experienced economic stagnation because of the new motorway. The study is based on field research – mapping, questionnaires and interviews with business entrepreneurs/ investors, local population, and local authorities. The drop in the volume of traffic along the old road has had negative effects on the catering industry, formerly an essential source of income. The motorway has initiated the emergence of new regional disparities by marginalizing previously the most significant developmental trajectory in Gorski kotar. At the same time it has opened up perspectives for the settlements along the motorway intersections. The study showed that the survival strategies in areas of naturally and socially limited developmental options must include a wider spectrum of economic activities. They too must evaluate all accessible developmental resources and not limit themselves to those which are most profitable in the short term.

Key words: motorway, mountainous rural periphery, economic development, rural development, Gorski kotar, Croatia

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## **INTRODUCTION**

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Numerous geographical studies have focused on the effect of communication networks, particularly roads, on spatial organisation and development. After years of falling behind Western European standards, from the mid 1990s onwards Croatia has become one of the largest road construction and building sites in Europe. The main goal has been to connect Central Croatia with Littoral Croatia. After ten years, Croatia has almost attained average EU values for the overall road network density and the proportion of motorways within it (Ilić, 2006). Intensive building of new road infrastructure has brought mostly positive expectations, such as the improved connection among macro-regional centres, the growth in traffic related to tourism, increased competitiveness of Croatian sea ports, higher population mobility, etc. But is there another, "dark" side to motorways? What has happened to "small" local communities in rural areas which have been in some sense breached by new motorways? We have attempted to answer this question on the example of Gorski kotar, the rural mountainous periphery between Zagreb, the capital and Rijeka, the most important port of the country.

## **RESEARCH OBJECTIVES AND METHODOLOGY**

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The goal of this study was to research the socio-geographical implications of the opening of the motorway Zagreb – Rijeka in the central part of Gorski kotar. The study focused on settlements situated along the old road connecting Zagreb and Rijeka, the so-called Lujzijana,<sup>1</sup> and tested the hypothesis that they have experienced economic stagnation because of building the motorway. Included in the study was also Fužine as an example of a settlement with a long tourist tradition, located close to the new motorway intersection which has experienced significant economic growth and prosperity in the aftermath of the opening of the motorway. In addition to utilising secondary sources of information (demographical statistics, traffic information and technical data relating to the motorway Zagreb – Rijeka), the most fundamental part of the study is based on field research – mapping, questionnaire and interviews with business entrepreneurs/investors and local population, and local authorities.

Field research was conducted from 2nd to 4th May 2006 (three working days) in 22 settlements along the old road between Bosanci and Dedin (Figure 1). That area has the highest concentration of tertiary economic activities. Also, it was the last to "fall by the wayside" because it was bypassed by the motorway only in the summer of 2004. Interviews were conducted in 29 out of 34 observed catering units along the old

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road. In addition to entrepreneurs and their reflections about the present state and future prospects of Gorski kotar, we also interviewed the local population for their views. As a sample we chose Severin na Kupi (157 inhabitants in 52 households in 2001), a settlement which lived from the old road, and which found itself in a disadvantaged position with the opening of the motorway and the re-routing of the main traffic route, and Fužine (814 inhabitants in 294 households in 2001), a settlement which prospered economically after the building of the new motorway intersection in 1996. The questionnaire survey was conducted following the method of systematic random sample. A total of 30 households was interviewed in Severin na Kupi and 43 in Fužine. In order to obtain an objective picture, in Fužine we also interviewed local entrepreneurs (15). We also conducted interviews with the Mayor of the Town of Vrbovsko (the administrative seat of the region to which Severin na Kupi belongs), the Head of the Municipality of Skrad and an experienced tourist entrepreneur from Fužine.

## **ROAD INFRASTRUCTURE AND DEVELOPMENT: MUTUAL CONNECTIONS AND DEPENDENCIES**

Communication is clearly an important prerequisite for, and a contributing factor to, regional development. Throughout its history it has exercised key influence on the direction and distribution of developmental trajectories in any given area. In this way it has formed space by defining and differentiating more accessible and more perspective regions from less accessible and less perspective regions. In the modern period characterised by the necessity of faster and more reliable communication and by the increased individual motorisation and spatial mobility of the population, road communication has emerged as the leading form of passenger land transport.

The majority of authors who study the topic of the influence of motorways on space through which they pass, emphasise that the premier goal of building motorways is providing fast and easy intercity communication (Barke, 1986; White, Senior, 1989). Thus the overall advantage and rationale for the building of motorways is defined as the need to connect large urban agglomerations, whose numerous population, predominantly enjoying a higher standard of living and characterised by distinct mobility, generates intensive communicational initiatives.

The principal reason for the building of motorways is also the principal reason for their shortcomings in spatial organisation. Even though the population of the area breached by the newly built motorway enjoys increased temporal access

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to large urban agglomerations, with considerable access to employment, this most often rural "interspace" irretrievably retreats into a "communicational shadow". The new motorway, which physically passes through a rural space by way of a narrow corridor, does not actually enter in a dialogue with the surrounding space but it only "breaches" it and further diminishes developmental presuppositions which are limited anyway. It is evident that this claim is valid in cases in which the arrival of the motorway, that is the benefits brought in by its intersections, is not utilised as developmental potential of the rural space through which it passes. Regrettably there are numerous cases on record in which increased communicational access facilitated by motorways further diminished already inferior developmental potential of rural space due to one-sided planning. Furthermore, since a motorway often cuts through agricultural or forest land, this not infrequently creates manifest difficulties for the local population who, in order to reach their place of work, need to take side roads. Many authors also list noise as a negative side-effect of the motorway, as well as the effects it exercises on the environment (vegetation, animals, etc.), which simultaneously adversely affect the quality of life of the local population. The case of the North of Wales illustrates the fact that mere improvements to the motorway (A5) traversing the area are not sufficient for the economic development of the region (Bryan et al., 1997). Similar conclusions were drawn in the analysis of economic influences of motorways on the economic potential of local communities in the Canadian province of Ontario. Authors note that the building of motorways, without paying attention to devising appropriate developmental plans for local economies, turned the areas through which motorways were built into typical transitional regions which had further negative consequences on their economic bases (Kanaroglou et al., 1998). Illustrative is also an example from the rural area of China in which the building of fast toll roads, but often without alternative toll-free roads, despite providing better connectedness of these areas, contributed to the economic weakening of the already weak local economies (Chung, 2002). One of the often-mentioned positive contributions of motorways is the increased accessibility of adjacent areas. However, one should keep in mind that the re-routing of traffic to a faster and superior road also results in the reduction of bus lines in rural areas, the direct consequence of which is a drop in the quality of life felt predominantly among the local population and a possible perception of isolation and of being forgotten. To conclude, the topic of road accessibility of rural areas is broad and encompasses numerous complex aspects, pri-

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marily economic and social (Nutley, 1996; Farrington, Farrington, 2005).

The topic of motorways has been discussed in Croatian geographical literature primarily by analysing it through the focus of positive effects motorways bring. After the building at the end of 1972 of the first motorway in Croatia between Zagreb and Karlovac numerous discussions took place about its positive and negative consequences. The overwhelming affirmative tone was based on the fact of the improved communication which is the prerequisite for a more vigorous regional development (Sić, 1980-81). The same author (1997), based on the example of Central Croatia, emphasises the positive contributions of motorways, i.e. of motorway intersections as the site for business and industrial estates as important providers of employment, particularly adjacent to intersections along the motorway ring-road around Zagreb. The increasingly significant role of motorways has been underlined also in relatively numerous studies about the modern road system in Croatia (Sić, 1993; Ilić, Orešić, 2004; Ilić, 2006). However, even a cursory glance at Croatian geographical literature reveals the lack of studies which analyse the complex effect motorways exercise in the peripheral regions of Croatia.

### **GORSKI KOTAR – "THE MOUNTAIN DOORSTEP OF CROATIA"**

The research was conducted in Gorski kotar, a traditional transit space characterised by depopulation typical of a peripheral geographical region. Gorski kotar is a part of Mountainous Croatia, one of three large physical geographical macro-regions in Croatia. Today its geographical location between Central Croatia and the capital on one side, and the tourist region of Istria and Kvarner with Rijeka as the most important Croatian port on the other side, is of premier importance for modern Croatia, but also significant as a connection between Central Europe and the Mediterranean.

The basic characteristic of Gorski kotar are dispersed settlements with a relatively small number of inhabitants. The total population of 237 settlements in existence in 1991 (22 were unpopulated) was 30 545 inhabitants which gives the average of 129 inhabitants per settlement. According to the figures from the latest census from 2001, when Gorski kotar had 26 120 inhabitants, this average was further reduced to 113 inhabitants per settlement (in 231 settlements, i.e. 259 in total of which 28 were "dead villages"). Population density was 21 inhabitants per square km, which is significantly below the Croatian average. Gorski kotar shares the same demographic fate of other hilly and mountainous regions in Croatia. It is characterised by depopulation, which has been a constant for

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Gorski kotar throughout the whole twentieth century. The main causes of prolonged emigration and depopulation are to be found in the economy of the region, land communication, historical, social characteristics and other factors related to the nature of these settlements (Lajić, 1999). General physical-geographical characteristics of the region can be added as well (adverse climatic characteristics and terrain).<sup>2</sup>

The decisive factor in the economic exploitation of Gorski kotar is the fact that as much as 2/3 of its territory is forest and that Gorski kotar contains around 80% of all evergreen forest in Croatia. Forestry and industry (particularly wood industry) are most important economic sectors and employ more than 50% of all active population. The geographical characteristics of the terrain significantly limit the development of agriculture: land allotments are of exceptionally irregular shape, fragmented and dispersed. The most important agricultural produce are potato and corn. The structure of service industry used to be determined and defined by and large by the road – catering services, small shops and transport comprised the bulk of the tertiary sector in the settlements along the road.

First roads through Gorski kotar were built already in Roman times, but a more vigorous evaluation of road communications starts in the 15th and 16th centuries. Ever more intensive traffic prompted the start of the building of "modern" roads. Their construction occasioned a new organisation of space, particularly the emergence of new settlements along communication routes. The first such communication route is considered to be the Karolina, the macadam road which was completed in 1726. It connected Karlovac and Rijeka. Other roads followed (Jozefina, Lujzijana, Rudolfina).

### **CONTEMPORARY ROAD NETWORK – BUILDING THE NEW MOTORWAY IN THE 1990s**

The principal road Zagreb – Rijeka, which for the most part followed the old Lujzijana road which was mapped out as early as the beginning of the 19th century, could not any more cope with the increased volume of traffic at the end of the 20th century. This increasingly brought to attention its low permeability, a large number of curves, a large number of settlements along its length, and its inappropriate technical characteristics. For this reason the building of the Zagreb – Rijeka motorway commenced already in 1969, but after the construction of preliminary sections of the road work was suspended (Figure 1) due to the lack of funding and because of the building of other communications in the former Yugoslavia which were at the time considered more strategically important (Knežević, 1995).



FIGURE 1  
Road infrastructure  
of Gorski kotar

After the dissolution of former Yugoslavia, the Croatian government recognised the importance of this road which connects Zagreb, the capital and the largest city in Croatia, with Rijeka, the largest Croatian port. In 1996 the first new section of the motorway Zagreb – Rijeka was opened and by the year of 2004 these two cities were connected by a modern toll road.<sup>3</sup>

As expected, the basic function and purpose of the Zagreb – Rijeka motorway is the channeling of economic, primarily tourist-related, trajectories between emissive (Central Croatia, Central Europe) and receptive tourist regions (the territory of Istria and Kvarner – the area of Croatia with the highest number of tourist visitors representing more than half of the total number of overnight stays for the whole of Croatia during the Summer tourist season). The daily average traffic by month (DATM) clearly shows this seasonality of traffic flow (Table 1).

TABLE 1  
Daily average traffic  
by month (DATM),  
Summer daily average  
traffic (SDAT) and An-  
nual daily average  
traffic (ADAT) in mo-  
torway segments from  
Zagreb to Bosiljevo 2  
and from Bosiljevo 2  
to Rijeka in 2005

| Month     | Zagreb-Bosiljevo 2 | Bosiljevo 2-Rijeka |
|-----------|--------------------|--------------------|
| January   | 11717              | 5285               |
| February  | 11875              | 5527               |
| March     | 15971              | 7244               |
| April     | 18906              | 8377               |
| May       | 23949              | 9991               |
| June      | 27717              | 11203              |
| July      | 42386              | 15505              |
| August    | 40627              | 15122              |
| September | 26008              | 10037              |
| October   | 19740              | 8549               |
| November  | 16279              | 7342               |
| December  | 14552              | 6487               |
| SDAT      | 36452              | 13593              |
| ADAT      | 22491              | 9225               |

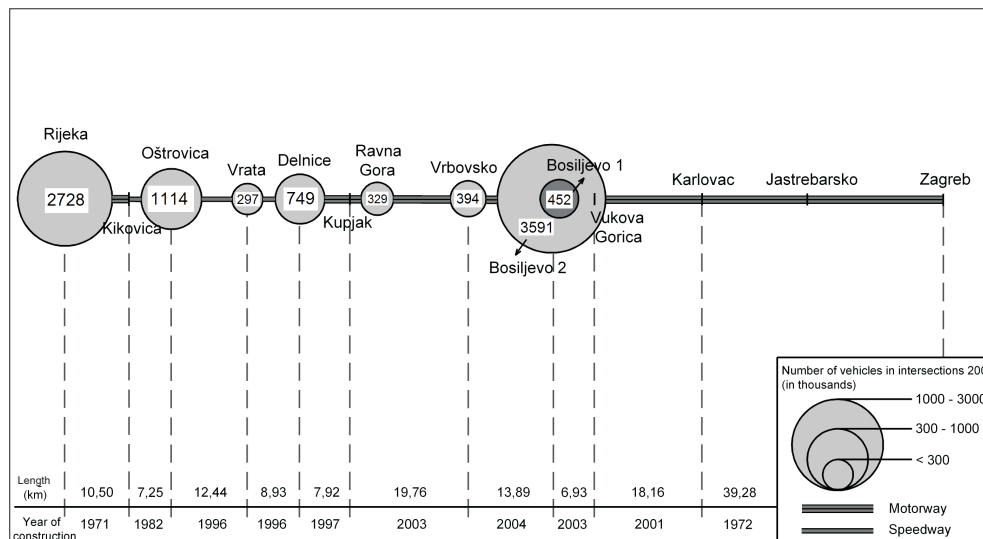
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During the process of the building of the motorway its advantages for the revitalisation of Gorski kotar were often flagged out. It was pointed out that the arrival of the motorway affects the accessibility of Gorski kotar between the demographic and economic hubs of Croatia with resources supporting the development of tourism and other traditional industries (for instance forestry, wood industry, cattle production).

However, the analysis of the volume of traffic at several motorway intersections in Gorski kotar (Bosiljevo 1, Bosiljevo 2, Vrbovsko, Ravna Gora, Delnice, Vrata), clearly brings out the distinct transitory nature of the motorway which might have an extremely negative influence on the region Gorski kotar as a whole which is already characterised by intensive depopulation. This is also borne out by the fact that the majority of vehicles which enter Gorski kotar through the intersection Bosiljevo 2 exit at intersections Oštrovica and Rijeka which are located outside the region (Figure 2).

**FIGURE 2**  
 The total number of vehicles in selected intersections of the Zagreb – Rijeka motorway in 2005 (in thousands)



Source: "Motorway Rijeka – Zagreb", Zagreb, 2006

The motorway has become "the bridge over Gorski kotar" and its developmental effect on local economies is not fully actualised. In any case, the arrival of the motorway has had significant influence on the realignment of the economic basis of the region and has increased regional disparities within Gorski kotar.

**THE TRANSFORMATION OF SERVICES  
 ALONG THE "OLD ROAD" – THE RESULTS OF EMPIRICAL RESEARCH**

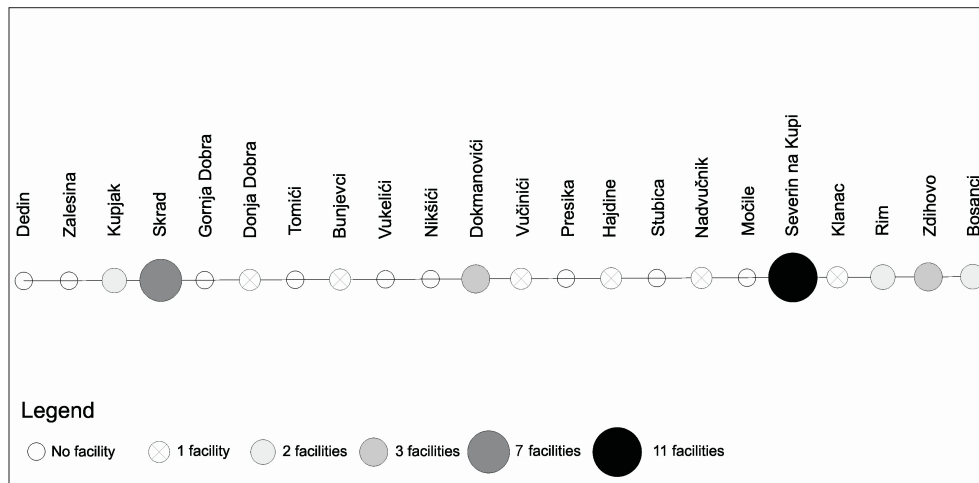
After the opening of the last segment of the Zagreb – Rijeka motorway in the summer of 2004 between Bosiljevo and Vrbovsko, there was a dramatic reduction in the volume of traffic along the whole length of the old road.<sup>4</sup>



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FIGURE 3  
The number of service  
trades in settlements  
along the Lujzijana  
road



Source: Field research 2nd to 4th May 2006

One of the aims of the study has been to research how the drop in the volume of traffic has affected the operation of catering services in settlements along the old road. We have identified these catering services as indicative of changes which were occurring because before the building of the motorway the income of these settlements along the Lujzijana was to a large extent dependent on and originated from the large volume of traffic between Zagreb and Rijeka. The basic economic activities were small shops, catering services and car garages and mechanics (Figure 3). Interviews were conducted in 29 of 34 observed facilities along the old road.

The enterprises were typically family-run businesses on which whole families depended for their livelihood. The entrepreneurs interviewed confirmed our hypothesis: more than a half of them emphasised that before the opening of the motorway the livelihood of the whole family fully or predominantly depended on income from their operation.

However, even though the old road guaranteed steady income and a degree of prosperity, it also fostered in entrepreneurs a passive attitude towards work. As the volume traffic was large, entrepreneurs were not forced to upgrade the quality of their offer nor invest in marketing because patrons came on their own.

After the opening of the motorway, the reduction in the volume of traffic had a negative effect on the operation of these businesses, which was confirmed by a great majority of all the interviewees. The following were underlined as principal reasons: reduction in the volume of work and lower employment (82,1%), insensibility of the motorway towards the need of the local population (7,1%), lower buying power of local population (3,6%) and other (7,1%).

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TABLE 2

The consequences of the opening of the Zagreb – Rijeka motorway on life along the old road (attitudes of small entrepreneurs along the old road; text in Italics represents interviewees' verbatim responses)

Even though 23 of 29 interviewed entrepreneurs reported a drop in income in comparison with the period before the arrival of the motorway, only 6 interviewees consider closing down their businesses. This "business philosophy", illogical at first glance, is actually quite simple and results from the fact that the motorway was opened relatively recently and that people stick to their work by inertia and hoping that it will somehow turn for the better. The shortening of working hours, evidenced by 24 interviewees, nevertheless indicates the true state of affairs. We have asked local entrepreneurs also about the consequences of the arrival of the Zagreb – Rijeka motorway for the lives of population along the old road. As expected, pessimism associated with the operation of their businesses was also fully evident in their replies to this question (Table 2)

| Consequences   | Number of responses |
|--|---------------------|
| Loss of jobs and resulting unemployment<br><i>Between Zdihovo and Severin na Kupu 40 people lost jobs.</i>   | 9                   |
| Lower standard of living and isolation<br><i>There is no public transport, if you do not own a car you are legless.<br/>Buses do not operate as in the past, all has changed.</i>                              | 9                   |
| Negative consequences<br><i>All is destroyed. We're going to die like animals. It is all quiet and peaceful.<br/>There are no positive words.</i>  | 8                   |
| Slump in sales, closing down and/or introduction of shorter working hours of tertiary services<br><i>If you have an inn you have to close it down.</i>   | 6                   |
| Lower standard of living<br><i>The motorway took it all away, there is no compensation...Nothing nowhere.</i>  | 4                   |
| Negative demographical situation<br><i>Young people leave for Rijeka, Zagreb, Karlovac. Young people leave, and only those who have to stay and those who cannot find employment stay...People run away...</i> | 4                   |
| "Peace and quiet"  | 1                   |
| Total  | 41                  |

Source: Field research, 2nd to 4th May 2006. Note: Open ended question, every respondent could give several responses. Summarized by authors.

### WINNERS AND LOSERS: THE NEW MOTORWAY AND REGIONAL DISPARITIES – THE ATTITUDES OF THE LOCAL POPULATIONS IN SEVERIN NA KUPI AND FUŽINE

Mere observation leads to the conclusion, which is further corroborated by supporting information, about the commencement of the process of economic regression in the settlements along the old road. It is expected that negative demographic trends will only accelerate in the future. At the same time, the economic revival of settlements in the vicinity of the motorway intersections is apparent.

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TABLE 3  
The consequences of  
the diminished volume  
of traffic on the old  
Zagreb – Rijeka road  
in Severin na Kupa  
(attitudes of the local  
population)

| Consequences   | Number<br>of responses |
|--|------------------------|
| Loss of jobs and unemployment  | 19                     |
| Closing down and/or introduction of shorter working hours of tertiary services | 15                     |
| Fewer bus lines  | 8                      |
| Drop in standard of living and isolation                                       | 6                      |
| <i>Total</i>   | <i>48</i>              |

Source: Field research, 2nd to 4th May 2006. Note: Open ended question, every interviewee could give several responses. Summarized by authors.

This section will analyse attitudes and reflections of the local populations of Severin na Kupa and Fužine. The age structure of interviewees in Severin na Kupa is highly negative (63,3% of the interviewees was over 50, and retired people comprised almost one third of all the interviewees). The structure of acquired professional qualifications testifies to the unfavourable educational structure (the majority of the interviewees has completed secondary education (60%), while only two out of thirty interviewees have completed post-secondary education). In light of these considerations it is not surprising that local population is characterised by low mobility. Almost two thirds of the interviewees do not use the Zagreb – Rijeka motorway. The reasons lie in the prevalence of short-distance travel (Vrbovsko, Karlovac...) and the road toll which is too high for their economic situation. Even 90% of the interviewees opine that too great a distance between two motorway intersections Bosiljevo 1 and Vrbovsko has had a negative effect on the local economy of Severin na Kupa, and the drop in volume of traffic on the old road has had a number of negative consequences (Table 3).

According to the results of the interview, the most manifest consequence of the motorway is the loss of employment possibilities and the increase in unemployment. In the circumstances of underdeveloped local economy and low employment, primarily in catering services – which has been one of the economic pillars of the area gravitating towards Severin na Kupa (traditional gastronomic offer is based on lamb), the loss of a single possibility for employment has had more complex consequences than the same loss did in larger centres. In many families typically only one member would have been employed and thus his or her loss of employment endangered the existence of the whole family. The replies received are thus fully expected. Other replies clearly point to the drop in the overall quality of living of the local population after the opening of the motorway. Meeting basic existential needs has been made more difficult through the closing down

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☞ TABLE 4  
The consequences of  
the opening of the  
motorway intersection  
Vrata (Fužine) (attitu-  
des of local  
population)

of catering services and the shortening of working hours, through the decrease in the volume of public traffic and the sense of isolation.

Fužine is a typical mountainous tourist settlement which has benefited through the opening of the motorway and the construction of the intersection at the adjacent location of Vrata which has increased Fužine's accessibility and importance for local tourism. Our predictions have been confirmed by the attitude expressed by the local population of Fužine (Table 4).

| Consequences                            | Number of responses |
|---|---------------------|
| Growth in services, tourism and trade   | 24                  |
| Improved accessibility                  | 18                  |
| Adverse effects on environment          | 10                  |
| Drop in standard of living              | 7                   |
| Opening of new jobs                     | 6                   |
| Opening of real-estate market           | 5                   |
| Overall optimism about the future       | 5                   |
| Increased investment in infra-structure | 1                   |
| No answer                               | 3                   |
| Other                                   | 3                   |
| <i>Total</i>                            | <i>82</i>           |

Source: Field research, 2nd to 4th May 2006. Note: Open ended question, every interviewee could give several responses. Summarized by authors.

The responses of the population of Fužine fall in two groups: emphasis on positive effects is more frequent, particularly effects on the local catering industry, tourism and trade. Nevertheless, the negative effects of the arrival of the motorway follow in closely.

The local population emphasises the devastation of environment during the building of the motorway and the drop in the quality of living caused by increased volume of traffic through the settlement. The interviewees also mentioned as positive the increase in employment, the increased interest in the purchase of building sites and real estate and generally life in an environment characterised by enhanced positive expectations of the future.

The above data demonstrate that the local population of Severin na Kupu and Fužine entertain almost opposite attitudes about the effects of the motorway on their lives as well as on the future outlook of the area. It is clear that the motorway exercised very different effects on these two areas. This brought us to investigate the effects of the motorway on Gorski kotar as a whole, i.e. the region which is home to both settlements (Table 5).

| Response                   | Severin na Kupi<br>(interviewed population) | Fužine<br>(interviewed population) | Total |
|----------------------------|---|------------------------------------|-------|
| Positive                   | 2   | 20                                 | 22    |
| Negative                   | 21  | 4                                  | 25    |
| Both positive and negative | 6   | 18                                 | 24    |
| Do not know                | 1   | 1                                  | 2     |
| <i>Total</i>               | 30  | 43                                 | 73    |

Source: Field research, 2nd to 4th May 2006

TABLE 5  
Do you consider the opening of the Zagreb – Rijeka motorway to be a positive or a negative development for Gorski kotar (the attitudes of local population in Severin na Kupi and Fužine)?

In accordance with our expectations, the population of Severin na Kupi in an overwhelming majority considers the arrival of the motorway as negative for Gorski kotar, and just over one fourth of the people interviewed evaluates the opening of the motorway as positive or both positive and negative. On the other hand, a great majority of interviewees in Fužine considers the same event as positive or both positive and negative for Gorski kotar. It is apparent that the local populations form their views primarily on the basis of their own experience and find it difficult to formulate an objective view of the totality of the situation in the whole region.

### "THE ROAD TO... HEAVEN OR HELL?" THE FUTURE PERSPECTIVES OF GORSKI KOTAR AND THE OLD ROAD

TABLE 6  
Do you see any future perspective for you and your family in continuing in the same line of business?

As has been highlighted in the previous section, the local population perceives the present as well as the future of Gorski kotar predominantly through the lenses of their own fate. In response to the question directed at entrepreneurs and people employed in the catering industry whether they see the future in continuing with the same business or in the same job, a higher percentage of affirmative replies came from the interviewees from Fužine than from the entrepreneurs along the old road (Table 6) which was no surprise.

| Response                    | Entrepreneurs<br>along the old road | Entrepreneurs<br>in Fužine | Total                     |
|-----------------------------|-------------------------------------|----------------------------|---------------------------|
|                             | Number of<br>interviewees           | Number of<br>interviewees  | Number of<br>interviewees |
| Yes                         | 14                                  | 11                         | 25                        |
| No                          | 11                                  | 2                          | 13                        |
| I have not thought about it | 1                                   | 1                          | 2                         |
| I do not know               | 3                                   | 1                          | 4                         |
| <i>Total</i>                | 29                                  | 15                         | 44                        |

Source: Field research, 2nd to 4th May 2006

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The fact that almost half the interviewees from the region along the old road, despite quite a drastic reduction in income, still believe in the bright future of their current business, appears surprising only at first glance. This attitude stems from a certain professional inertia, from a prolonged involvement in the same business or enterprise (catering and trade), a limited possibility of finding employment in other sectors, particularly in civil services, but also from a temporary present reliance on savings made in "better times".

The question may be raised whether it was possible to avoid, albeit only partially, the negative effects on the decrease in the volume of traffic along the old road. From the total population of the region of the old road included in the study in 2001 there were 2412 inhabitants in 22 settlements who were largely dependant on the road. It might be expected that the state has in place an elaborated package of developmental measures to support the space which is already demographically depressed but which is at the same time significant for road communication, particularly at a time when negative effects could easily be predicted. The building and opening of the Zagreb – Rijeka motorway was accompanied by extensive media attention, which brought Gorski kotar in the focus of public interest. In spite of that, an opportunity was lost to re-evaluate the function of the old road while building the motorway. As a result, instead of having two roads with different functions and different effects on the surrounding space, Gorski kotar was mostly limited to the motorway which underlined the negative characteristics of the transitional nature of the region. Interviewees emphasised still other examples of social insensibility of the motorway project: limited employment possibilities for the local population in supporting services along the motorway (road toll houses, supporting catering services), the ban on advertising of catering services along the old road on the motorway, road signs which favour the motorway resulting in a lesser degree of awareness, particularly in the case of foreigners, of the possibility to use the old road as an alternative road communication.

As a viable possibility we want to highlight the transformation of the old road into a tourist road.<sup>5</sup> There already exist several relevant initiatives and already started projects, but regrettably they have not been coordinated with the project of the building of the motorway. We asked entrepreneurs along the old road and in Fužine and the local population from Severin na Kupi and Fužine, to assess the chances of transforming the old road into a tourist road (Table 7).

As a result of the opening of the motorway and diminished volume of traffic, entrepreneurs along the Lujzijana

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**TABLE 7**  
What are the chances  
for the old road to  
transform into a tourist  
road?

| Response        | Entrepreneurs<br>along the Lujzijana | Entrepreneurs<br>Fužine | Population<br>Severin na Kupi | Population<br>Fužine | Total |
|-----------------|--------------------------------------|-------------------------|-------------------------------|----------------------|-------|
| None            | 9                                    | 1                       | 6                             | 7                    | 23    |
| Small           | 11                                   | 6                       | 11                            | 12                   | 40    |
| Medium          | 7                                    | 6                       | 9                             | 16                   | 38    |
| Great           | 2                                    | 2                       | 3                             | 5                    | 12    |
| Extremely great | 0                                    | 0                       | 0                             | 3                    | 3     |
| <i>Total</i>    | 29                                   | 15                      | 29                            | 43                   | 116   |

Source: Field research, 2nd to 4th May 2006

have experienced a dramatic change and their replies are not surprising. Since the changes experienced by the local population of Severin na Kupi were not as radical as those experienced by entrepreneurs, their replies about the future of the Lujzijana are somewhat more optimistic. Replies obtained in Fužine reflect a more enthusiastic attitude to a hypothetical tourist road. Both groups of interviewees in Fužine express moderate optimism. This is particularly interesting because Fužine is 7 km away from the old road and has not shared in the fate of other settlements along the old road.

We maintain that a realistic project of a tourist road, and a more successful development of Gorski kotar as a whole, requires the establishment of a joint tourist board encompassing the whole territory of Gorski kotar, which would be a step towards the creation of a unified tourist destination.<sup>6</sup> The next presupposition is the co-ordination of all potential stakeholders in this and similar projects. The leaders of local administrations (the Town of Vrbovsko and the Municipality of Skrad) who were interviewed all mentioned the absence of communication and co-operation as one of the premier problems of the future development of Gorski kotar. All stakeholders should be interested in the project: local populations (for example through various associations) and entrepreneurs, local administrations, the Primorsko-Goranska County and state firms (for example "Croatian roads", "Croatian forests"... ) and appropriate government ministries. The majority of these stakeholders have in the past taken certain steps, but it was precisely the lack of co-ordination which has undercut their positive effects.

## **CONCLUSIONS**

1. The manifest drop in the volume of traffic along the old road has reflected particularly negatively on the catering industry, onetime key existential pillar of local economies of settlements along the Lujzijana. Major direct effects and consequences include: the closing down of a number of shops, the shorten-

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ing of working hours, smaller overall income and the drop in the number of employments. In addition, the following indirect consequences have been identified: decreased number of bus lines, decreased mobility among the unmotorised segment of population, adverse effects on supply in the area and overall sense of isolation. It is evident that the quality of life in general has fallen.

2. The motorway was opened in the region already suffering from depopulation. Although the old road was considered the "backbone" of Gorski kotar and although it could have been expected that the settlements along the old road would demonstrate more positive demographic trends, the analysis has established natural decrease and depopulation, characteristic of Gorski kotar as a whole. The situation is further aggravated by the highly negative age and educational structure of the population of Gorski kotar. It is realistic to expect that a further drop in the quality of living and the weakening of the function of employment might occasion permanent emigration of the existing young and educated population, who are essential for the long-term development of the region.

3. The motorway has given incentive to the creation of new regional disparities in the region of Gorski kotar which is confirmed by the replies of the interviewees in Severin na Kupi and in Fužine. The new circumstances have relegated the once leading economic developmental axis of Gorski kotar by the wayside, and on the other hand opened a more positive outlook for the future for the settlements adjacent to the motorway intersections.

4. The case of Gorski kotar shares numerous similarities with the earlier-mentioned studies in North Wales and Ontario. The upgrading and opening of new roads alone does not solve the developmental problems of any region. Moreover, various studies have proved that motorways can increase the transitory or "tunnel" character of space by primarily connecting urban centres located outside of them. This is just another argument for the fact that the opening of motorways simultaneously opens new peripheries.

5. The strategies for survival in areas with limited developmental conditions, both in terms of natural resources and of societal opportunities, must include a wider range of fundamental economic activities and must evaluate all available developmental resources and not only those which are the most profitable in the short-term period. The multi-sector economic development of Gorski kotar would imply deliberate and thought-out focus



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on: a) forestry and wood industry (with emphasis on producing the final product inasmuch as it is possible), b) tourism (the example of the Lujzijana as a tourist road, but primarily general affirmation of Gorski kotar as a unique tourist destination in its own right), c) catering industry based primarily on autochthonous foods which would contribute to the sustainability of "small" agriculture typical of this mountainous space, d) transport and haulage as traditional segments of local economies of the region, and e) trade. It is obvious that this kind of economic development must be supported by corresponding (immigrational and redistributive) population policy on the level of the region, however receiving incentive from the side of the government.

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## NOTES

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<sup>1</sup> The old road, the Lujzijana or "Lujzinska cesta" (opened for the first time in 1811), is a common designation for the principal road D3, which connects Zagreb and Rijeka via Karlovac. The road was the key route connecting Central Croatia with Istria and Kvarner until the construction of the motorway A6 in 2004.

<sup>2</sup> Gorski kotar is a region characterised predominantly by karst relief and modest natural resources. Its landscape nevertheless differs from the typical karst: instead of barren, rocky and waterless scenery we face predominantly green soil covered with grass and forests. This is also the region within Croatia with the highest annual precipitation. The inhabitants of Gorski kotar have also always had to deal with long and harsh winters with much snow which further contributed to the general isolation of the area.

<sup>3</sup> Even though Zagreb and Rijeka are now connected by a high quality road, the construction of the motorway is still not fully finished. Due to lack of financial resources for the extremely demanding and expensive mountain sections of the road (the motorway has 13 tunnels of the total length of 7761 meters, five bridges, 24 viaducts of the total length of 3947 metres and 45 smaller subways and overways), one section of the route is built as a road with two traffic lanes, with a speed limit of 90-110 km/h, and with an intermittently added third traffic lane for overtaking. The motorway is expected to be finished in 2009.

<sup>4</sup> According to the official statistics, the Annual daily average traffic (ADAT) on the old road before the opening of the motorway was 9157 (2003), and after the opening of the motorway it was only 1588 (2005)!

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<sup>5</sup> It is customary to define a tourist road as a road which is not used exclusively as a tool to reach a certain destination, but the journey along which is in itself a tourist attraction (Kušen, 2002). The project of a tourist road implies access to the marked route, the printing of appropriate publication and institutional concern. Due to the attractive mountainous scenery which includes natural and cultural points of interest, the Lujzijana is suitable for transformation into a panoramic tourist road similar to many Alpine tourist roads (e.g. Großglockner Hochalpenstraße). Its historical significance and high-quality construction have situated the Lujzijana among the most beautiful and advanced European roads of the time (Gaudin, Napoleon's road expert, said: "That is the most beautiful road in Europe!", *Jutarnji list*, 11/12/2006, No. 3060, p. 70). The relatively small volume of traffic, caused by the re-routing of traffic to the motorway, is actually an advantage in the transformation of the Lujzijana into a tourist road.

<sup>6</sup> Presently every town and municipality in Gorski kotar have their local tourist board united in the Tourist board of the Primorsko-Goranska County. The main obstacles to the more focused functioning of local tourist boards are insufficient co-ordination and small budgets. Towns and municipalities in Gorski kotar face the same problems. Due to their fragmentation their economic bases are often insufficient for sustainable development (onetime three municipalities Čabar, Delnice and Vrbovsko were dissolved at the beginning of 1993 and reformed into nine new units: Brod Moravice, Čabar, Delnice, Fužine, Lokve, Mrkopalj, Ravna Gora, Skrad and Vrbovsko).

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## "Druga strana autoceste Zagreb – Rijeka": sociogeografske implikacije u brdsko- planinskoj ruralnoj periferiji Hrvatske

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Hrvatska je od sredine 1990-ih postala jedno od najvećih autocestovnih gradilišta u Europi. Uz nesumnjivo mnoge pozitivne efekte autocesta, postoje i negativni utjecaji, koji na prvi pogled nisu toliko vidljivi. Jedan od njih svakako je i skretanje prometa s prethodno najčešćih prometnih pravaca. Cilj istraživanja bio je utvrditi sociogeografske implikacije otvaranja autoceste Zagreb – Rijeka u središnjem dijelu Gorskog kotara. Istraživali smo naselja uz staru cestu Zagreb – Rijeka za koja smo očekivali da su doživjela ekonomsko nazadovanje te Fužine, primjer naselja uz novi autocestovni čvor, koje je doživjelo prosperitet nakon otvaranja autoceste.

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Temeljni dio istraživanja počiva na terenskom radu – kartiranju, anketiranju poduzetnika i lokalnoga stanovništva te intervjuiranju predstavnika lokalnih vlasti. Najvažniji zaključci ovoga istraživanja jesu: Očito smanjenje prometa na staroj cesti izrazilo se negativno odrazilo na uslužne djelatnosti, nekada egzistencijalnu granu lokalnih ekonomija naselja uz Lujzijanu. Autocesta je potaknula stvaranje novih regionalnih dispariteta unutar Gorskog kotara, što potvrđuju odgovori ispitanika u Severinu na Kupi i u Fužinama. Ona je, s jedne strane, "bacila u sjenu" nekad vodeći razvojni pravac Gorskog kotara, a s druge je otvorila svjetlije perspektive naseljima u blizini njezinih čvorova. Strategije preživljavanja u krajevima i prirodno i društveno ograničenih uvjeta razvoja moraju sadržavati širi spektar nosivih djelatnosti i vrednovati sve dostupne razvojne resurse, a ne samo kratkoročno najprofitabilnije.

Ključne riječi: autocesta, brdsko-planinska područja, gospodarski razvoj, ruralni razvoj, Gorski kotar, Hrvatska

## „Die Schattenseite der Autobahn Zagreb–Rijeka“: Soziogeografische Implikationen im rural-peripheren Bergland Kroatiens

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Seit Mitte der 90er-Jahre werden in Kroatien Autobahnbauprojekte durchgeführt, die zu den größten in Europa gehören. Neben vielen positiven Auswirkungen, die der Bau neuer Verkehrswege dem Land zweifelsohne gebracht hat, gibt es auch negative Seiten, die auf den ersten Blick jedoch nicht so sehr ins Auge fallen. Dazu gehört natürlich auch die Verkehrsumleitung, in deren Folge die bislang genutzten Hauptverkehrsstraßen umgangen werden. Mit dieser Untersuchung sollten die soziogeografischen Implikationen ermittelt werden, die nach Inbetriebnahme der Autobahn Zagreb–Rijeka im Zentralteil des Berglands Gorski kotar spürbar sind. Die Untersuchung umfasste die an der alten Fahrstraße Zagreb–Rijeka liegenden Ortschaften, von denen die Autoren einen wirtschaftlichen Abschwung annahmen, sowie Fužine als repräsentatives Beispiel für eine Ortschaft, die im Umland des Autobahnkreuzes Rijeka liegt und seit Inbetriebnahme der Autobahn einen wirtschaftlichen Aufschwung verbuchen kann. Die Untersuchung basiert auf Feldstudien und schließt die Erhebung kartografischer Daten ein, ferner Umfragen unter Ortsansässigen und Unternehmern sowie Interviews mit Vertretern der Lokalbehörden. Die wichtigsten Erkenntnisse

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der Untersuchungen besagen Folgendes: Das spürbar geschwächte Verkehrsaufkommen auf der alten Fahrstraße Zagreb–Rijeka hat ausgesprochen negative Folgen für den Dienstleistungsbereich (Gastronomie), der vormals die wichtigste Einnahmequelle der längs der „Lujzijana“ (Luisenstraße) wohnenden Lokalbevölkerung darstellte. Der Bau der Autobahn hat neue regionale Disparitäten im Raum Gorski kotar hervorgebracht, welcher Umstand von befragten Einwohnern der Ortschaften Severin na Kupu und Fužine bestätigt wird. Einerseits ist so die einstige das Bergland Gorski kotar durchquerende Hauptverkehrsstraße völlig marginalisiert worden, während andererseits die in der Umgebung der Autobahnanschlusstellen liegenden Ortschaften auf einmal ganz neue Zukunftsaussichten haben. Nachhaltige Überlebensstrategien in Gegenden mit begrenzten natürlichen und gesellschaftlichen Entwicklungsperspektiven müssen ein breiteres Spektrum an Haupttätigkeitsbereichen aufweisen und dabei alle verfügbaren Ressourcen prüfen, statt sich auf Projekte zu beschränken, die lediglich kurzfristige Gewinne abwerfen.

Schlüsselbegriffe: Autobahn, gebirgig-ländliche Peripherie, Wirtschaftsentwicklung, ländliche Entwicklung, Gorski kotar, Kroatien