

Proposal for new development categorisation of regional and local units in Croatia

Jakša Puljiz, mr.sc.

Institute for International Relations, Zagreb

jpuljiz@irmo.hr

Abstract

Current approach to designation of supported areas in Croatia is too fragment and inadequate for regional policy purposes. A proposal for new categorisation has been elaborated in order to bring more coherent and reliable methodology for development level assessment and categorisation of territorial units. New categorisation is based on a single set of socio-economic indicators applied both at county and local level.

Key words: Regional development, development level assessment, socio-economic indicators

1. INTRODUCTION

Categorisation of territorial units for development policy purposes is a common procedure in many countries, particularly in ones with significant regional disparities. Policy actors apply categorisation of territorial units with basic goal to highlight and distinguish areas facing significant socio-economic difficulties such as low incomes per capita and high unemployment from the rest of the country. Sometimes categorisation also reflects existence of particular natural handicaps which have negatively affect well-being of the population living in such areas, like in case of remote islands or mountainous parts of the country.

The most known development categorisation today is probably the one applied by the European Union Commission which serves as the basis for the Structural Funds allocations. Objective 1, two and three regions have become familiar terms among many practitioners and academics dealing with various aspects of the European Union's Cohesion policy. Despite the growing importance of Structural Funds and therefore the EU supranational methodology for categorizing regions, it seems that in some cases national categorisation still matters. One of the key reasons is that EU categorisation takes place at high level of aggregation. For example, population size of the regions falling under Convergence Objective should be in range between 800.000 and 3.000.000 inhabitants. Regions formed on the basis of such criteria are quite big for small country like Croatia, and they could hide significant disparities existing inside such regions. This has been confirmed after Croatian authorities recently adopted division on three regions which should after accession become part of the Convergence Objective (the so called "NUTS II" regions). Selected regions are quite large for Croatian circumstances and rather unsuitable as a territorial basis for national regional policy objectives.

Current national categorisation of supported areas has many weaknesses. Draft of the National Regional Development Strategy of Croatia assessed current approach to categorisation of disadvantaged areas as too fragmentary and incoherent, at the same time indicating need for creating more coherent system for development assessment and categorisation of territorial units. Upon the request from the Ministry of Sea, Transport, Tourism and Development, who is currently in charge of regional policy in Croatia, group of experts from the Institute for International Relations from Zagreb and Ecorys, Netherlands, prepared background materials on experience of other European countries with regional development categorisation as well as an initial proposal of new approach to categorisation of territorial units in Croatia. This paper summarizes key results of the project aiming to present them to the wider public.

New system includes important changes in comparison to current practice. Besides identification of disadvantaged areas, it provides categorization of all territorial units, including also county units, according to the level of development. The extension of the categorisation to all territorial units makes way for more quality solution on another important issue of regional development incentives, i.e. the level of incentives. Directly linking level of development with the level of development incentives, more coherent and objective framework for policy design is achieved. Examples are provided to demonstrate the usefulness of suggested categorization. In the second section a short overview of some relevant experiences with categorisation in European Union is given. Third section brings description of current approach to categorisation of supported areas in Croatia. Key features of new categorisation are presented in the next section. Fifth section comprises results of the simulation of categorisation performed on data from period 2002-2004. It also highlights

differences in results when compared to current categorisation. Possibilities for linking categorisation of units to the level of development incentives are presented in sixth section. Finally, last section summarizes key results.

2. EXAMPLES OF CATEGORISATION IN EUROPEAN UNION

Primary goal of categorisation of territorial units under Cohesion policy is to ensure concentration of resources on most disadvantaged parts of the European Union. Although categorisation itself is a subject of change for every programming period since 1994, the key area of concentration remains the same – regions with GDP per capita less than 75% of Community average. Following table presents categorisation framework for 2007-2013 period.

Table 1: Categorisation of eligible areas under Cohesion Policy during 2007-2013 period

Instruments	Eligibility criteria
Convergence objective (ex Objective 1)	
ERDF ESF	Regions with a GDP/head <75% of average EU25 (NUTS II)
	Statistical effect: Regions with a GDP/head <75% of EU15 and >75% in EU25
Cohesion Fund	Member States GNI/head <90% of EU25 average
Regional competitiveness and employment objective (ex Objective 2)	
ERDF ESF	Member States suggest a list of regions (NUTS I or II)
	"Phasing-in" Regions covered by objective 1 between 2000-06 and not covered by the convergence objective
European territorial co-operation objective (ex INTERREG initiative)	
Cross-border and transnational programmes and networking (ERDF)	Border regions and greater regions of transnational co-operation

ERDF – European Regional Development Fund

ESF – European Social Fund

NUTS – *Nomenclature des unites territoriales statistique* (French) ¹

It should be noted that categorisation is mostly based on the unit's from the EU average. The only exceptions are regions falling under Regional competitiveness and employment objective where member states do not have prescribed criteria for selection of eligible regions. Nevertheless, categorisation at EU level is only partially useful since it is mostly done on quite high level of aggregation. Therefore, description of a system of national categorisation for two member states which could serve as a good starting point for Croatia is following. Slovenia and Estonia have been chosen, since both are small countries just like Croatia.

¹ NUTS is a hierarchical classification of territorial units of a single member country for the purpose of EUROSTAT and Cohesion policy. It ranges from NUTS I to NUTS V category. The classification of units is determined on the basis of population ranges for each NUTS category.

Table 2: Development categorisation in Slovenia and Estonia

	Eligibility criteria
Slovenia	<ul style="list-style-type: none"> • Economically weak areas and/or municipalities shall be areas covered by those municipalities in which, in the last three years, taxable earnings per capita amounted to less than or equal to 80 per cent of the national average. Economically weak areas shall also be municipalities in which a population decrease has been recorded in the last ten years. • Areas with structural problems: <ul style="list-style-type: none"> • Areas with structural problems and a high unemployment rate shall be municipalities in which the registered rate of unemployment in the last three years exceeded the national average by more than 20 per cent. • Areas with structural problems shall also be those municipalities in which, in the last three years, the active population employed in agriculture, as a percentage of the total population, has exceeded the national average by more than 20 per cent. • Developmentally limited border areas and areas with limited potentials shall be municipalities: <ul style="list-style-type: none"> • in which areas with limited potentials extend across more than 50 per cent of the municipality's territory and in which, at the same time, there has been a population decrease in the last ten years; • that lie along the border with Austria, Italy and Hungary, if more than half the municipality's territory lies in the ten-kilometre border belt and the population in the municipality has decreased in the last ten years; and municipalities along the border with Croatia, if more than half the municipality's territory lies within the ten-kilometre border belt.
Estonia	<p>Regional level:</p> <ul style="list-style-type: none"> • units where average living standard (measured as the average monthly income per household member) is lower than 75% of the average of Estonia • units where unemployment rate is higher than 35% of the average of Estonia, • units where income tax revenues per capita in local budgets are lower than 75% of the average of Estonia, of which Tallinn has been excluded. <p>Local level:</p> <ul style="list-style-type: none"> • units where income tax revenues per capita are lower than 75% of the average of Estonia, of which Tallinn has been excluded. • units where registered unemployment rate exceeds by more than 35% the average of Estonia. <p>Islands have special status</p>

Source: Designation of Areas of Disadvantage Benchmarking Exercise, Ecorys 2005

Slovenia categorizes disadvantaged areas at local level in several groups, depending on the type of the problem, which is similar to the approach implemented with third group of ASSC. Criteria such as border position are also included, but with in connection to other indicators, such as change in number of population. The threshold for defining disadvantaged areas has been set to 20% from the national average. Categorisation of eligible units in Estonia is made both on county and local level and aiming to capture disadvantaged units only. The main indicators in Estonia are the average living standard (measured as the average monthly income per household member), the unemployment rate and the income tax revenues per capita. Islands have been also included due to problems related with isolation.

3. PRESENT CATEGORISATION OF SUPPORTED AREAS IN CROATIA

Present categorisation includes three types of areas which have been granted special support from the central level. These are: Areas of Special State Concern (ASSC), Hilly and mountainous areas (HMA) and Islands.²

The Areas of Special State Concern are divided into three categories.

- Category I: territories of towns and municipalities situated immediately along the state border, which were occupied during the Homeland War;
- Category II: territories of towns, municipalities and settlements that were occupied during the Homeland War (which are not determined in first group)
- Category III: municipalities estimated as being parts of the Republic of Croatia lagging behind in development according to the evaluation procedure on the basis of four development criteria:

The criteria used for the classification of the first two groups are the circumstances that occurred on the basis of the state of occupation and the consequences of the aggression against the Republic of Croatia and comprise the territories of towns and municipalities which were occupied during the Homeland war. For selection of units in third group four criteria were introduced, irrespectively of the state of occupation during war.³ These are:

- The criterion of economic development, comprising areas lagging behind in development, which is measured by following basic indicators: income per capita of the population, proportion of persons earning an income in the total population, and incomes of local self-government (without subsidies) units per capita;
- The criterion of structural difficulties, measured by unemployment rate, employment rate and social aid expenditures per capita
- The demographic criterion, measured by census population change, educational attainment rate, population density, age index and vital index;
- A special criterion, applied to the border municipalities confronting additional developmental difficulties after the change of the republic border into the state border (along the border with the Republic of Slovenia, Serbia and Montenegro and B&H) and to the municipalities with mined areas

Total number of eligible units has been determined on the basis of maximum number of inhabitants that can be included in the third group. According to the Law on ASSC, maximum size of population covered by the Law must not exceed 15%, which means that remaining part of the population ceiling for the third group after deducting population size of the 1st and 2nd group (around 10,5%) is approximately around 4,5% of the total population. Eligible units are selected after calculation of the values of the economic, structural and demographic criterion

² City of Vukovar has also been granted a special status by passing the Law on Reconstruction and Development of the city of Vukovar, but it has not been treated separately in the rest of the paper, since Vukovar is at the same time included in the Areas of Special State Concern (first group).

³ More details about selection of indicators and categorisation procedure can be found in a study that served as the analytical background material. Name of the study is „Criteria for the development level assessment of the areas lagging behind in development” and it has been elaborated by a group of experts from the Institute for International Relations and several other institutions.

for each unit. These values are calculated as the weighted average of the rank values of corresponding basic indicators.

Mechanism for checking eligibility of the targeted units to keep their special status is envisaged only in case of third category. A unit is excluded from the third category if it fails to meet the criteria for remaining into the group for two consecutive years. The size of the population in units which lose status at the same time determines number of new entrants.

Hilly and mountainous areas are according to the Law on Hilly and mountainous areas⁴ divided into two groups. First group comprises local units with negative vital index, below average growth rate, higher unemployment rate and lower standard of living than the average one. Also, units with lower level of communal infrastructure development and where public services are in lower shape than the average level are eligible. The second group comprises local units where population due to unfavorable natural conditions is facing more difficult living conditions. Furthermore, the Law lists a number of additional criteria which can be applied such as population density, above sea altitude and others. The Law or any other government decree does not specify the thresholds for mentioned indicators so it remains unclear how the categorization has been implemented. Also, duration of the period of eligibility has not been constrained, meaning that units after being selected keep their status permanently.

Law on Islands groups islands into two categories, depending on the level of development and presence or absence of population.⁵ Law only enumerates islands in each category, but without specifying criteria based on which the categorisation has been made. All three groups of supported areas are shown in annex. The map of supported areas also shows that there are counties where only couple of units is not covered by one of the laws. These are in most cases urban centres which should serve as the growth poles of the county. Such categorisation is obviously not encouraging for the overall county development and suggests that categorisation should take into account higher geographical level.

4. PROPOSAL FOR THE NEW CATEGORISATION

Primary objective of the new system is to ensure as much reliable and coherent measurement framework for assessing socio-economic position of targeted units as possible. This means that factors such as former occupation during the war or the presence of mined areas should be abandoned as criterions for categorisation and only true socio-economic indicators should be used. Such an approach ensures that those units which have well recovered despite the fact of being formerly occupied during the war do not stay permanently included in state support system. Also, negative effect of mined areas on overall development is gradually decreasing with the process of demining. Another currently applied criterion which should be abandoned is the negative impact of new border along the former Yugoslav republic. The reason is that impact of border varies for different border units, and it is, therefore very difficult to assess how negative this impact really is. Also important, negative impact of new borders is in general gradually decreasing with further advances in process of integration towards EU, thus emphasizing the transitional nature of such indicator. In short, new categorisation is based on usual socio-economic indicators such as income per capita and unemployment rate.

⁴ Law on Hilly and Mountainous Areas (Official Gazette, No 12/02 and 117/03)

⁵ Law on Islands (Official Gazette, No 34/99 and 32/02)

Important change in comparison with current system for designating units is application of unique criteria to the entire territory of the Republic of Croatia. The only exemptions are local units on islands which were not subject of assessment because the Ministry of Maritime Affairs, Transportation, Tourism and Development expressed its viewpoint that the application of social and economic criteria to the islands would not make much sense due to particularities of the islands, like transport isolation, which applied social and economic indicators do not recognise to the satisfying extent, at least not directly. Also, current system of categorisation of islands already includes some development criteria. Furthermore, unlike the practice so far, the new system proposes assessment and categorisation of units both on county and local level. The main reason for introducing county level categorisation is that local level is often to low geographical level for effective implementation of policy measures. Also, recent research clearly shows that regional disparities in Croatia are becoming more county level and less local level driven (Puljiz, Maleković, 2007). Nevertheless, the local level should be also kept, as data also show that there are many highly disadvantaged local units even in those counties with average results and which would otherwise been neglected. Such dual approach enables to prepare different types of incentive for different geographical level of units. For example, some measures or projects have more local impact, while other ones have wider, county impact. In the first case, central level could use categorisation of local units as a basis for determining size of the support, while in the latter case it would use county level categorisation.

While current approach is aiming to designate only disadvantaged areas, new proposal includes categorisation of all territorial units and not only disadvantaged ones. A system which categorizes all territorial units has several important advantages compared to the system identifying only disadvantaged areas. First of all, it does not exclude *a priori* more developed areas from benefiting from regional development incentives. Such an approach is in accordance with contemporary understanding of regional policy as a policy which, although concentrated on disadvantaged areas, promotes and supports development of all local and regional units (Yulli, Wislade, 2001). It also offers high degree of flexibility for designation of regional development incentives. For example, it enables designation of incentives aimed for all local or county units, but graded according to different categories of units. On the other side, it is still makes possible to design incentives only for disadvantaged areas.

As it was earlier mentioned, mechanism for checking eligibility status exists currently only in case of third group of ASSC. According to this mechanism, a unit loses its status if it fails to fulfil the criteria for remaining in the system for two consecutive years. Considering that two years is a rather short period, not providing enough security for entrepreneurs to plan and invest, and which includes additional administrative problems and expenses due to potentially frequent changes, categorisation period is now expanded to five years. So, every five years a new assessment would take place. In case if disadvantaged units would fail to meet the criteria to keep its special status, than it enters a phasing out period lasting for additional two years after which it loses all the privileges as disadvantaged unit.

Unlike the current practice of using data only for last available year, the new system uses average data obtained on the basis of time series for last three available years. In case there are no available yearly data, census data shall be used. Using three-years series reduces risk of biased assessments due to some significant short-term effect like for example presence of huge infrastructural project in the area. Also important, categorisation of units was made on

the basis of the deviation from the national average and not on the unit's rank or targeted number of population. Finally, just like in case of third group of ASSC, weighting of indicators has been applied. All indicators, although relevant, do not have the same importance and this standpoint is reflected through weighting of indicators. Also, weighting enables taking into account shortcomings of an indicator. For example, budget revenues of some local units like Molve stand out significantly due to various concession rents, which can create a distorted image of real social and economic circumstances in such units.

Development indicators and construction of development index

Starting point for selection of indicators was group of socio-economic indicators currently applied for categorisation of third group of ASSC. From eleven indicators five of them have been finally selected for new categorisation. The main reason for reducing number of indicators is a change in the general approach to categorisation. While in case of third group of ASSC, units are classified into three different development dimensions (economic, structural and demographic), they are now classified into single dimension representing overall development. The idea behind reduction is to make overall categorisation more simple and reliable. More concretely, reasons for abolishing particular indicators were:

- **Problems with reliability of the indicator**

Considering that unemployment rate is more accurate indicator than employment rate due to the fact that input data for unemployment rate are available on a yearly basis, while calculation of employment rate is based on census data about working age population, the employment rate was left out. Also, indicator social aid per capita was abolished due to insufficiently accurate data on municipal level. Namely, data on social aid per capita are collected at the level of Social Service Centres which in most cases cover more than one municipality. Therefore, approximations were necessary in order to obtain municipal level data. Problems with reliability appeared with population density at local level as well. Due to significant differences between urban and rural areas, as well between different rural areas, some units score extremely higher or lower than other units.

- **Too high correlation between particular indicators**

High level of correlation means that both indicators measure very similar phenomena and that the difference in informative value of one indicator compared the other is very small. This situation occurred with indicator of a proportion of persons realising income in total population in relation to incomes per capita indicator.⁶

- **Too low correlation with key socio-economic indicators**

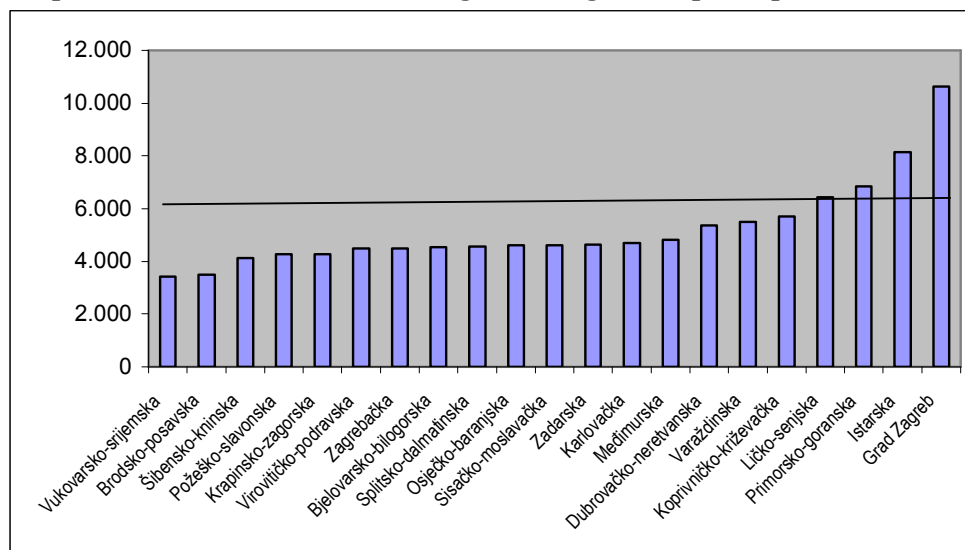
Considering that primary objective of the measurement is to identify areas with biggest social and economic problems, additional condition for the inclusion of potential indicator is the existence of certain level of correlation with key social and economic indicators, like income per capita and unemployment rate. Considering that vital index and age index have particularly low correlation with aforementioned indicators, they have not been applied this time.⁷

⁶ Coefficient of correlation between incomes per capita and share of persons earning an income was 0,93 in 2004.

⁷ Vital index had value of correlation coefficient with income per capita 0,15 and with unemployment rate 0,09. Age index value of correlation coefficient with income per capita 0,02 and with unemployment rate 0,00. All calculations refer to values in 2004.

Besides abolishing some indicators, eligibility of new potential indicator has been checked as well.⁸ In this case it was GDP per capita on county level. Despite the fact that this indicator is the most common development indicator, the decision has been made not to include it immediately, but to leave it as an option for future assessments. Namely, as graph 1 shows, ranking of counties based on GDP per capita data reveals some unexpected results.

Graph 1: Counties ranked according to average GDP per capita in 2002-2004 period



Source: author's calculation on the basis of CBS data

Low ranking of Zagreb County is misleading as all other indicators point to very high development position of this county. The problem is in the commuting effect as large part of working force is employed in the City of Zagreb and therefore not contributing to Zagreb County GDP. On the other hand, data on wages and unemployment measure more accurately development position of this county as they are not influenced by the problem of commuting.⁹ Also, quite low ranking of Splitsko-dalmatinska County and relative high ranking of Karlovac County are potentially misleading when compared to other socio-economic data. These unexpected results are most probably connected with current methodology of calculation of GDP data which is still faced with certain obstacles. Nevertheless, it can be expected that in future the reliability of this indicator will grow and therefore it should be kept as potential indicator. Five indicators finally selected for the purpose of assessment and categorisation are listed in the following table together with data sources.

⁸ I have not for the purpose of the paper checked usefulness of infrastructural indicators, such as connection to public water supply network or density of road network since this has been already done in an earlier study (see Institute for International Relations, 2001). There have been found many examples of less developed areas with satisfying level of infrastructural equipment and vice versa. The results suggested that infrastructural indicators are in general not reliable indicators of development at regional and local level.

⁹ Data on wages, employment and unemployment are collected according to the residential principle, i.e. place of living or usual stay.

Table 3: Indicators and data sources^a

Indicators	Data sources
Personal incomes per capita	Ministry of Finance of the Republic of Croatia, Tax Office - data on paid wages and pensions at municipal level; Central Bureau of Statistics –Population Census 2001, number of population at local and county level
Budget revenues without subsidies per capita^a	Ministry of Finance of the Republic of Croatia – data on budget revenues for local and county units without subsidies from central and county budgets Central Bureau of Statistics – Population Census 2001, number of population at local and county level
Unemployment rate	Croatian Unemployment Service - number of registered unemployed persons at local and county level Ministry of Finance - number of employed persons at local and county level, data extracted from the report on tax applications
Change in population number	Central Bureau of Statistics – Population Census 2001, 1991, number of population at local and county level
Educational attainment rate^b	Population Census 2001 - number of population with secondary education and higher; number of population over 15 years

^a Subsidies include subsidies from abroad and government (63), donations from legal and natural persons (663), and tax incomes conceded from the side of the central government (1200, 1606). At county level indicators includes both local and county unit data.

^b Measured as ratio of population with secondary education and higher in population over 15 years

The categorisation of units has been performed in three steps:

- 1) calculation of the relative value of indicator (national average set at 100)
- 2) calculation of composite development index as the weighted average of indicators' values
- 3) defining categories on the basis of index value and assigning units to corresponding categories

Since unemployment indicator is negatively correlated with level of development, the value of this indicator has been multiplied by -1, so that each variable is now positively correlated with the level of development. This was necessary in order to construct the composite index, but it has caused that some units at local level with extremely high unemployment rate, now have negative deviation from the national average, which is at first sight paradoxical. This is, for example, the case with units with unemployment rate three times higher than the average one like Kistanje. Nevertheless, this outcome does not affect validity of categorisation, as such units are indeed categorised as most disadvantaged ones. Such outcome could be avoided by using standardized values of the indicators, but then another problem would then appear. Due to standardization the dispersion of indicators would be equalised, but reduced to extremely small value, i.e. to 1. Ranking and categorisation of units with such small scale would be difficult. Using standardised values also means that deviation of units with very high positive or negative relative values of indicators would be artificially reduced, while in case of units with very small deviations it would be increased. Since, this would also mean a loss of impartiality of assessment it was decided to keep non-standardized values.

Composite development index is calculated as the weighted average deviation from the national average of five basic indicators. As table 4 shows, unemployment rate has 30% weight, incomes per capita 25% and other three indicators 15% weight. The weights have

been assigned on the basis of expert opinion about their relevancy for development level assessment.

Table 4: Calculation of development index

<i>INDEX</i>	<i>INDICATORS</i>	<i>WEIGHT</i>
DEVELOPMENT INDEX	1) Incomes per capita	25%
	2) Budget incomes of local and county units per capita ^a	15%
	3) Unemployment rate	30%
	4) Population change	15%
	5) Educational attainment rate	15%

^a When assessing and categorizing local county units, data on county budgets as well as related local budgets are used.

Next step is to define criteria for categorisation at county and local level. County units have been divided in four different categories in accordance with their relative positions when compared to the national average. Thresholds for categorisation are presented in table 5.

Table 5: Categorisation of county units on the basis of national average

Category	Criteria
Category I	- counties with development index value below 75% of national average
Category II	- counties with development index value between 75% and 100% of national average
Category III	- counties with development index value between 100% and 125% of national average
Category IV	- counties with development index value above 125% of national average

In case of local units the number of categories has been increased from four to five. The reason is that differences in development are much more accentuated at local than at county level and therefore there is sense to add new extra category to isolate the most disadvantaged group of units, those lagging behind more than 50% from the national average. Criteria for categorisation of local units are presented in table 6.

Table 6: Categorisation of local units on the basis of county average

Category	Criteria
Category I	- local units with development index value below 50% of national average
Category II	- local units with economic development index value between 50 and 75% of national average
Category III	- local units with development index value between 75% and 100% of national average
Category IV	- local units with development index value between 100% and 125% of national average
Category V	- local units with development index value above 125% of national average

As it has been previously mentioned, categorisation of all units enables easy identification of disadvantaged areas. If a threshold is set at 75% of the national average, than it is clear that first category of county units, and first and second category of local units would represent disadvantaged units. Despite the fact that both units are termed as disadvantaged ones, their geographical level is different and therefore they should be targeted with different policy measures.

5. RESULTS OF NEW CATEGORISATION OF COUNTY AND LOCAL UNITS BASED ON 2002-2004 DATA

In order to verify proposed model of categorisation and to get better picture about the differences in comparison to current system of categorisation, simulation of the model using 2002-2004 data has been performed. Table 7 shows results of categorisation on county level.

Table 7: Results of the categorisation on county level

	Number of units	Share in total number of units	Number of inhabitants	Share in total number of inhabitants
Category I (disadvantaged units)	6	28,6%	906.697	20,4%
Category II	10	47,6%	1.807.616	40,7%
Category III	3	14,3%	738.071	16,6%
Category IV	2	9,5%	985.489	22,3%

Source: Author's calculation

Results at county level confirm the existence of significant regional disparities. Only five out of twenty one county have above the average development index. Majority of county units are placed in category II, while only two units exceed national for more than 25%. As map 2 in Annex shows, most disadvantaged counties are mostly situated in central and eastern part of the country called Slavonia. Šibenik-Knin County is the only coastal county in the first category, but it can be expected that assessments with more updated data would probably move this county in second group due to very good economic recovery in last few years (mostly due to tourism). Two most developed counties City of Zagreb and County of Istria are situated in central and western part of the country. In case of categorisation of units at local level, results from table 8 indicate that almost one fifth of the total number of local units is

lagging behind in development more than 50% from the national average. The same category encompasses only 8,3% of total population, indicating that these units are also facing significant demographic difficulties. The opposite situation is in case of most developed units in category V. This category comprises only 3,5% of the total number of units, but at the same time it covers more than 22% of total population. In order to check appropriateness of categorisation of units at local level I have calculated total number of population living outside the counties in category I, but inside the local units living in category I and II. Calculation shows that number of inhabitants living in disadvantaged local units outside the disadvantaged county units is 493.316, or 11,1% of the total population. Such high number of inhabitants living in local units outside of disadvantaged counties justifies the decision to keep the categorisation of units at local level.

Table 8: Results of the categorisation on local level

	Number of units	Share in total number of units	Number of inhabitants	Share in total number of inhabitants
Category I	105	19,1%	368.391	8,3%
Category II	141	25,6%	647.340	14,5%
Category III	143	26%	1.137.872	25,5%
Category IV	88	16%	1.176.032	26,5%
Category V	20	3,5%	983.956	22,2%
Disadvantaged units (Category I + II)	246	44,7%	1.015.731	22,8%

Source: Author's calculation

Map 3 in Annex confirms that majority of disadvantaged units is situated in central and eastern part of the country and especially along the border with Bosnia and Hercegovina and Serbia. It also shows that in some counties with relatively good county results like Duborvnik-Neretva exists significant number of local units considerably lagging behind. Most balanced county development has been identified in Istria county where all local units have above the average development index. The similar result, but with opposite socio-economic situation is found in some disadvantaged counties like Brod-Posavina, where all units except county seat are lagging behind the national average by more than 25%. In next step, compliance of the current system of categorisation with the new one is checked by observing how many of ASSC and HMA units have been marked as disadvantaged ones according to the new categorisation.

Table 9: Checking correspondence of current and new system of categorisation

	Number of units	Share
Number of ASSC units confirming disadvantaged status^a	141 (out of 170)	82,9%
Number of ASSC units from category 1 confirming disadvantaged status*	42 (out of 48)	87,5%
Number of ASSC units from category 2 confirming disadvantaged status*	42 (out of 53)	79,4%
Number of ASSC units from category 3 confirming disadvantaged status*	57 (out of 69)	82,6%
Number of HMA units confirming disadvantaged status	9 (out of 45)	20,0%
Total number of ASSC and HMA units losing disadvantaged status	65 (out of 215)	30,2%

Number of new local units marked as disadvantaged	96 (out of 550)	17,5%
--	-----------------	-------

^a Calculation does not take into account units where particular settlements have been included in ASSC.
Source: Author's calculation

Results of the simulation indicate that current ASSC coverage is highly coherent with criteria applied by the new system of categorisation. In other words, ASSC areas indeed represent areas with most significant socio-economic difficulties. This is particularly the case with first category of ASSC where 87,5% units fulfil new criteria defining disadvantaged units. The opposite is in the case of HMA. Only 20% of current HMA units would keep their status as disadvantaged areas. Such results indicate that majority of HMA units does not have the basis in applied socio-economic indicators which would justify their inclusion in special state support scheme such as HMA. Results from table 10 also suggest that there exists significant number of local units currently outside of any government support scheme.

6. LINKING CATEGORISATION OF UNITS WITH LEVEL OF REGIONAL DEVELOPMENT INCENTIVES

Proposed categorisation can easily be utilized for better targeting of policy measures by linking development level of units to the level of regional development incentives.¹⁰ Regional development incentives can be linked to development level in several ways, but two are most common. One way is to propose different intensities of incentives depending on the various levels of development. Another way is to link total financial value of the incentive with different categories by granting the largest share of total incentives' financial value to the least developed areas. This is in line practice of European Commission in case of Structural funds allocation where for each financial perspective the proportion of funds is earmarked for significantly underdeveloped areas, i.e. for areas under Convergence objective.¹¹

European Union Guidelines on National Regional Aid as well as national Law and Decree on State Aid in detail elaborate the allowed intensities of state aid and their linkage to the level of regional unit's development.¹² However, two things should be pointed out. Firstly, state and regional aid rules cover aid for businesses, while other incentives, like for example subventions for local budgets are out of the scope. Secondly, state and regional aid rules are mainly designed at above county levels, thus ignoring social and economic disparities at local level. Therefore, there is still enough grounds for the existence of additional development categorisation such as the one proposed here. Of course, in case of incentives for businesses, every additional attempt of their categorisation has to comply with mentioned State Aid rules.

Tables 10 and 11 illustrate possible ways of categorisations of incentives. Table 10 links development incentive intensity to unit's development level, whereas table 11 links the share in total financial value of an incentive to unit's development level. Both tables refer to county level, but in the same manner the illustration can be performed for the local level.

¹⁰ Term regional development incentives relates to regional aid as well as other forms of relief and supports for population (tax relief, tariff concessions, etc.) or regional and local units which have spatially differentiated approach, meaning that some units benefit more than the others.

¹¹ During financial perspective 2007-2013 78,5% of total Cohesion policy funds (including both Structural and Cohesion Funds) will be allocated to areas under Convergence objective.

¹² EU Guidelines on National Regional Aid (OJ 2006/C 54/13; , 4.3.2006), Decree on State Aid (NN 121/2003)

Table 10: Connecting categorisation of county units with level of incentive^a

	Criteria	Incentive intensity
Category I	- counties with development index value below 75% of national average	up to 50%
Category II	- counties with development index value between 75% and 100% of national average	up to 45%
Category III	- counties with development index value between 100% and 125% of national average	up to 35%
Category IV	- counties with economic development index value above 125% of national average	up to 25%

^a Proposed intensities are only an approximation. In case of state aid, intensities need to be additionally differentiated depending on specific categories of incentives (such as aid for SMEs), as well as other criteria.

In this case, beneficiaries in less developed units would be entitled to a higher relative share of government subsidy with respect to the total cost of the project. An example where such categorisation could be applied is support for investments into business zone development, preparation of training schemes for SMEs, or direct support to SMEs for purchase of new technology. It is important to emphasise that proposed boundaries are only for illustration and that they should be adjusted depending on the type and logic of particular incentive and taking into account State aid rules. Following table suggests another possibility of using categorisation as the basis for incentives. It connects categorisation of units to the total financial value of incentives, i.e. it ensures that least developed unit's are indeed entitled a greatest share in total financial value of the incentive/measure.

Table 11: Connecting categorisation of local units with concentration of incentives

	Criteria	Share in total population	Share in total value of incentive
Category I	- counties with development index value below 75% of national average	20,4%	up to 40%
Category II	- counties with development index value between 75% and 100% of national average	40,7%	up to 30%
Category III	- counties with development index value between 100% and 125% of national average	16,6%	up to 20%
Category IV	- counties with economic development index value above 125% of national average	22,3%	up to 10%

Implementation of such or similar distributions of incentives guarantees policy focus on areas with greatest social and economic needs, but at the same time it does not exclude more developed areas from benefiting from the incentives.

7. CONCLUSIONS

New approach to territorial units' development level assessment and categorisation has some important advantages over the current system. First of all, it offers unique framework for assessment and categorisation of units instead of having several different systems for categorisation of areas. The new approach relies only on indicators with highest reliability for assessing socio-economic conditions of units such as incomes per capita and unemployment rate and leaves out indicators whose impact on socio-economic development is hard to measure such as border position or existence of mined areas. Second major change refers to the expansion of categorisation from exclusively underdeveloped areas to all territorial units,

which is in accordance with contemporary understanding of regional policy as a policy that encourages the development of all areas, although it remains focused on underdeveloped areas. Such a way of categorisation enables to easily track development position and dynamics of every county and local unit in the country. It also helps flexible designing of policy measures. Policy measures can be designed only for one category, but also for more categories. In the latter case level of incentive can be adjusted to the level of development of each category. Also important, proposed categorisation includes both county and local units thus further contributing to flexibility of the whole system as it enables policy makers to prepare various types of incentives for different geographical levels of targeted areas. Simulations indicated that there currently exists significant number of units with considerable socio-economic difficulties outside of any state support system. On the other hand, considerable number of units currently included in one of state support systems does not fulfil socio-economic criteria to keep their status. These results represent additional arguments for the introduction of new and more coherent system for categorisation of territorial units in Croatia.

LITERATURE

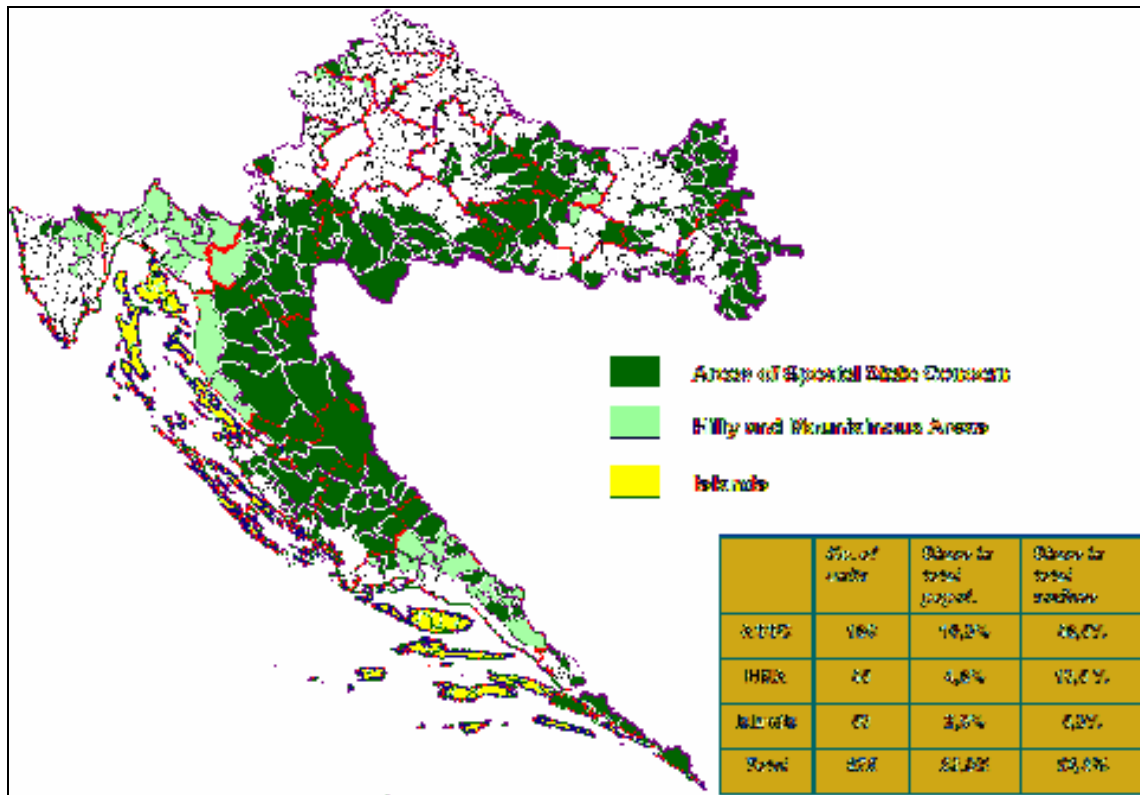
- European Commission (2006): “*Guidelines on National Regional Aid*” (OJ 2006/C 54/13)
- Bachtler, J., Wishlade F., Yulli D. (2003), “*Regional policies after 2006: Complementarity or Conflict?*”, European Policy Research Policy Paper, No. 51, European Policies Research Centre
- Council of the EU (2006), *Regulation No 1083/2006*, Brussels, Official Journal, 31.7.2006., L 210/25
- Decree on State Aid (Official Gazette, No. 121/2003)
- Ecorys (2005): “*Designation of Areas of Disadvantage Benchmarking Exercise*”, Netherlands
- Institute for International Relations, group of authors (2001): “*Criteria for the development level assessment of the areas lagging behind in development*”, study elaborated for the Ministry of Public Works, Construction and Reconstruction of the Republic of Croatia, Zagreb
- Law on the Areas of Special State Concern (consolidated text) (Official Gazette, No. 26/03)
- Law on Islands (Official Gazette, No 34/99 and 32/02)
- Law on Hilly and Mountainous Areas (Official Gazette, No. 12/02 and 117/03)
- Law on the Promotion of Balanced Regional Development (Official Gazette of the Republic of Slovenia, 60/99)
- Ministry for Sea, Transport, Tourism and Development, *National Strategy for Regional Development, draft version*, 2006, Ministry for Sea, Transport, Tourism and Development, Zagreb, www.mmtpr.hr
- Puljiz J., Maleković S., (2007.): “*Regional Income and Unemployment Disparities in Croatia*”, Conference proceedings, 7th International Conference Enterprise in Transition. University of Split, May 24-26, 2007, Bol
- Yulli D., Wishlade F. (2001): “*Regional Policy Developments in the Member States: A Comparative Overview of Change*”, Regional and Industrial Policy Research Paper, No. 45, European Policies Research Centre

Annex

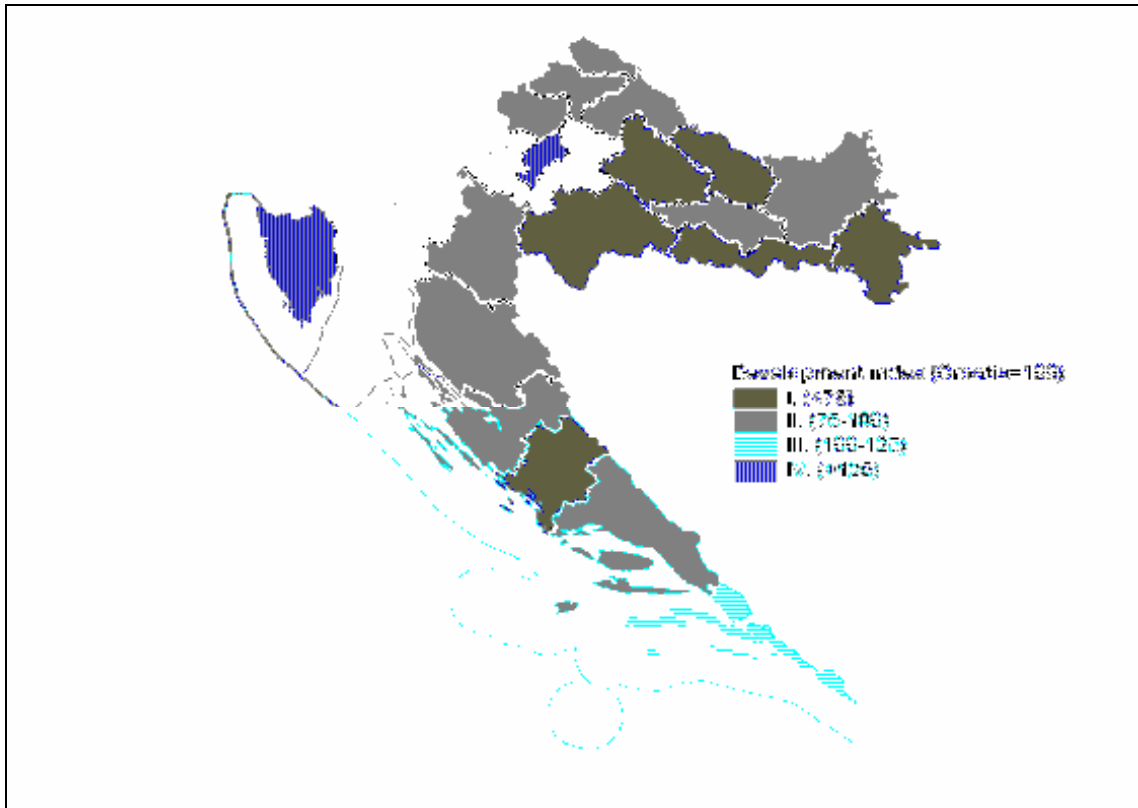
Average relative values of applied indicators and development index in period 2002-2004 (Croatia = 100)

County	Personal incomes per capita	Local/county budget revenues per capita	Unemployment rate	Change in number of population	Educational attainment rate	Development index
Vukovarsko-srijemska	67,6	41,3	164,2	96,2	81,9	60,6
Virovitičko-podravska	67,4	38,2	151,8	96,7	72,6	62,5
Brodsko-posavska	65,6	37,3	152,1	109,2	84,8	65,5
Bjelovarsko-bilogorska	73,0	56,2	135,1	99,4	76,1	72,5
Šibensko-kninska	85,6	65,0	150,4	81,8	95,9	72,7
Sisačko-moslavačka	88,9	58,7	138,2	79,7	86,6	74,5
Osječko-baranjska	83,1	60,2	133,9	97,6	90,1	77,8
Požeško-slavonska	74,3	51,6	110,9	93,2	78,6	78,8
Karlovačka	93,2	64,4	132,2	84,2	88,8	79,2
Ličko-senjska	95,3	66,0	100,6	69,3	80,5	86,0
Koprivničko-križevačka	78,1	69,6	98,8	103,3	70,3	86,4
Zadarska	90,7	84,9	114,4	81,8	99,3	88,3
Međimurska	73,1	50,5	86,4	107,5	87,1	89,1
Splitsko-dalmatinska	94,1	91,6	123,2	104,9	111,2	92,7
Krapinsko-zagorska	87,6	51,6	69,3	102,7	79,2	96,2
Varaždinska	91,2	63,4	78,8	105,2	91,2	98,1
Dubrovačko-neretvanska	96,4	90,8	97,2	105,0	110,4	100,9
Zagrebačka	101,7	75,9	68,2	116,4	94,8	108,0
Primorsko-goranska	121,6	141,2	73,3	101,7	117,5	122,5
Istarska	121,1	144,9	42,7	108,0	106,5	131,4
Grad Zagreb	144,1	211,5	66,5	107,4	126,3	142,9
Republic of Croatia	100	100	100	100	100	100

Map 1: Supported areas in Croatia



Map 2: Categorisation of counties according to development index



Map 3: Categorisation of local units according to development index

