



**The Spatial Development Concept of
Interregional Co-operation in the Danube Space
SEE EoI/A/246/4.2/X**

**WP1
Transnational project
management and coordination**

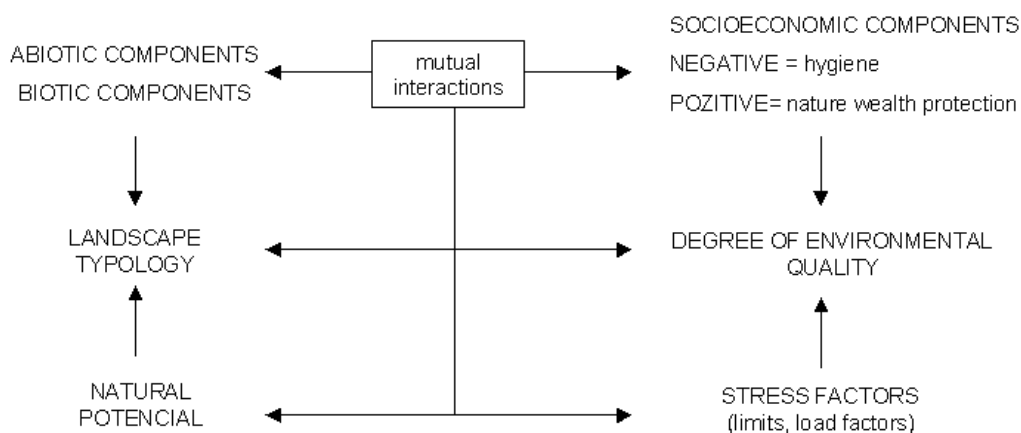
WP4 – Analysis methodology

WP4: ANALYSIS COMPLETION

SECTOR SCHEMES METHODOLOGY

I. NATURAL RESOURCES, ENVIRONMENTAL PROTECTION AND CREATION

I.1 Basic issues and attitudes



The main concept relies on an analyse of the impact of stress factors – limits on the natural potential (air, soil, water pollution, erosion, living environment destruction).

I.2 Potential (current situation)

The quality components of the environment are represented by the following:

- specific components of abiotic complex
- chosen biotic complex components (animate components),
- chosen socio-economic complex components (hygienic components and components related to environmental protection).

I.2.1 Biotic Complex

The chosen biotic complex components are constituted by current landscape structure as follows:

- forest vegetation

- non-forest woody vegetation scattered landscape greenery
 - planar (areas)
 - linear (lines)
- farm land
 - arable (cultivable) land
 - vineyards, orchards, garden colonies, hop-fields
 - permanent grass lands (meadows and pastures)
- wetlands
- lands with specific regime
 - salt soils
 - strongly sand soils and eolian sands
- rocky structures
- water streams and water bodies
- built-up areas
- technical elements
 - linear
 - planar
- waste dumps (waste landfill)

I.3 Chosen socio-economic complex components

The chosen socio-economic complex components are constituted by the following:

- important air pollution sources,
- emission contaminated lands (emission monitoring, dispersion studies),
- lands with contaminated soils (monitoring),

- waste deposits, important waste deposits – divided according to the waste character to:
 - other - O
 - exceptional - Z
 - dangerous - N

The protection of the territorial natural qualities is expressed through the means of a territorial delimitation of protected areas and protected Water Management Areas in accordance with EU legislation and national legislation in the field of nature protection and landscape and protection of water and their rational use.

I.4 Summary environmental condition assessment

The objective of the evaluation, possible to be realised in several stages, is to express the character of mutual relations between the elements of natural potential and the stress factors and therefore define entities with a different intensity of territorial and ecologic loads.

It is recommended to evaluate this interpreted load in the interval from 0 to -100 points, this interval is divided into ten classes with the following values:

1. I. class (0 to -20) - high standard environment, labelled I.

A territory completely fulfilling the requirements of the hygienic quality of the environment, with a good presence of landscape elements,

2. II. class (-20 to -40) – convenient environment, labelled II.

A territory fulfilling the requirements of the hygienic quality of the environment, but the conditions of harmony are on a lower level influenced by agricultural activities in the area, without positive influence of landscape elements,

3. III. class (-40 to -60) – ambivalent environment, labelled III.

A territory with disturbed hygienic quality, presence of civilisation factors disturbing the global environmental quality of the environment, without positive influence of landscape elements,

4. IV. class (-60 to -80) – troubled environment, labelled IV.

Territory in proximity to strongly troubled environment, with smaller negative impacts to the surroundings caused by transcended hygienic standards and therefore with negative impact at the landscape,

5. V. class (-80 to -100) - strongly troubled environment, labelled V.

Territories represented mainly by the specifically affected areas as well as by other strongly devastated lands.

I.5 Solutions for environmental protection and landscape recreation - proposal

The general scheme of landscape protection and recreation should be based on the principles of the sustainable development of the territory, its ecological capacity and carrying capacity. The negative impact of the stress factors on the natural potential in the territory should not exceed the „threshold situation“.

The proposal is grounded on the assessment of the potential presented by the proposal of the territorial system of ecologic stability, possibly by the optimisation development studies or projects for smaller parts of the considered territory.

The following issues are considered as the most important:

- optimisation of the forestry development,
- optimisation of agricultural production (taking into account ground and soil treatment, anti-erosion measures),
- general plans dealing with green structures,
- protected area care programs in line with the European policy in the biodiversity protection – NATURA 2000 system
- elaboration of the landscape typology
- programs dealing with waste management.

All the above mentioned optimisation documents must respect the prepared or already concluded international contracts dealing with the issues of environment protection and transformation and which are already accepted or will be adopted in the future by the countries of the danubian community.

II. HUMAN RESOURCES, URBAN STRUCTURE AND QUALITY OF LIFE

II.1 Basic issues and attitudes

The objective is to specify the present status and trends of human resource development and settlement structures and their potential of international cooperation. The principles of European Spatial Development Perspective (ESDP) should be followed, specifically the potential of inclusion into international, trans-regional and cross-border polycentric settlement systems. Therefore except ESDP we should follow the activities of ESPON and outputs of other Interreg IIIB projects (Vision Planet, PlaNet CenSE etc.) and bilateral projects as well.

The basic issue is represented by the characteristic of the human resources structure at least in the following classification according to different contact zones:

- current population characteristics, gender structure of population expressing the share of economically active population,
- housing standard expressed by the number of flats and a relative indicator of the number of flats per 1000 inhabitants,
- qualification structure of the inhabitants expressing the share of inhabitants with academic education and A levels secondary education,
- supposed population development trends classified according to the share of the population in pre-working age, working age and post-working age,
- evolution of the economically active population expressing the possible variants.

The evaluation of the current situation and of the urban structures will be focused on the expression of the following:

- current position and functions of the settlement centres,
- existence of agglomerated systems (settlement centres) and the process of constitution of these systems,
- current position and function of the settlement centres,
- existence and functioning of settlement axes and communication corridors,

- development potentials of the different centres and settlement centres,
- connection to the European settlement system.

The evaluation of the centres and settlement gravity centres will be realised mainly through the means of indicators expressing the following:

- the importance of settlement elements expressing the number of:
 - inhabitants,
 - vacancies according to sectoral composition,
- qualification of the population expressed by:
 - education structure of the inhabitants,
- quality of the residential environment:
 - number of flats,
 - share of flats according to different types of housing (individual/collective housing),
 - equipment of the flats according to different indicators (water pipelines, sewage system, heating, etc.)
- function of the settlement elements from the point of view of the:
 - industrial activities,
 - ground management activities,
 - service activities,
 - leisure and tourism activities,
- social context expressing:
 - cultural and
 - historical facts,
- political and administrative contexts expressing:
 - administrative division of the territory,
 - functions of the centres in the administrative division of the territory.

The existence of agglomerated systems and the process of constitution of these systems will be evaluated:

- through the evaluation of mutual relations between the different settlement centres and the municipalities in their proximity expressed mainly by the work, school and possibly service attendance,
- and the mutual links between the different settlement systems themselves.

II.2 Settlement structure development proposal

The settlement structure development proposal should express:

- global European contexts,
- macro system of the settlement and the directions of settlement structure development,
- position of the centres and cores of the settlement structure,
- proposal dealing with the connection of these centres to the European and national conceptions of territorial development,
- basic principles of the development of rural areas outside the settlement centres.

III. TRANSPORT AND TECHNICAL INFRASTRUCTURE

III.1 Basic issues and principles

The influence of transport on the process of rational distribution is contradictory. On one hand the development of transport helps to overcome the economic and geographic boundaries as it facilitates a more important dispersion and decreases the dependence of production on the proximity of material resources. On the other hand it creates conditions for a greater concentration of production and therefore an increase of the economic efficiency of the production.

Transport networks, more precisely their density and technical quality are contributing to the dispersion of the transport process into the whole territory and are therefore contributing to further development. At the same time an underdeveloped or insufficient transport network acts as a development barrier for the affected parts of the territory.

The requirement of an efficient transport system requires an evaluation of the different sorts of transport so that it is possible to use these latter for a maximal development of the considered area.

Basic axis of the target territory is the river Danube, which is the main inner land waterway of international importance (E80) and the Multimodal transport corridor as well. Transport connections in the target territory are provided by routes of other kind of transport, specifically between the main transport nodes on the corridor No.VII (along river Danube) and the transport routes enabling the connection with neighbourhood regions.

III.2 Transport potential of the danubian area

The transport area of the danubian area is assessed at least in this structure:

- highway and road transport, evaluation of the surface efficiency – density of the road network km / km^2 ,
- railway transport, evaluation of the surface efficiency – km / km^2
- air and water transport expressing the category and capacity of the airports as well as the capacity of ports and harbours,
- summary evaluation of the surface efficiency of the transport equipments in relation to the different parts of the territory and to the main transport nodes classified as following:
 - multimodal corridors and TEN network
 - road network
 - highways and speedways,
 - main roads - European network and the roads of 1st class
 - basic road network - roads of 2nd class
 - road crossing points
 - railway network
 - railroads of international importance
 - railroads of basic importance,
 - railroads of regional importance
 - railway crossing points

- high speed railways - intentions
- magisterial railroads –,
- navigation routes,
- airports,
- harbours,
- terminals
 - terminals of multimodal transport,
 - routes of multimodal transport
 - logistic centres
- shipment transports:
 - shipment routes,
 - ports.
- Air transport:
 - Airports of international importance,
 - Airports of regional importance

III.3 Analysis of transport systems potential

A three-grade evaluation will be used for the evaluation of transport infrastructure:

Value -

0 – the equipment does not pass through the territory,

1 – the equipment is tangent to the territory,

2 – the equipment is passing or is located in the centre of the considered area.

Evaluation of the transport system potential in the target territory will be oriented on accessibility of the settlements to the:

- Main transport nodes of the corridor No. VII,

- transport nodes of others multimodal corridors,
- nodes of transport networks of international and national importance

Evaluation of level and quality of transport system will be based on interconnections of settlement structure in their hierarchical arrangement

Conclusion on the transport system potential evaluation will represent the aggregated evaluation of the transport status.

III.4 Proposal for transport solutions

The proposal of the transport solutions is based on the evaluation of the position of the country in the European system and the interpretation of European trends:

- road connections according to corridors agreed on the II. Pan European conference of Ministers of transport, possibly according to the alternatives considered in the RE studies,
- railway connection – multimodal corridors and high-speed connection corridors of railroads,
- the transposition of these intention on the territory of the country,
- intentions of building a superior transport infrastructure on the territory of the country,

The development intentions of the superior infrastructure development will be based on the complex approach to the transport corridor development. These intentions will be classified as following:

- highway and road transport,
- railway transport,
- aerial transport,
- water transport.

Comparison of transport potential evaluation of the with the existing planned investment in the transport infrastructure, will generate new proposals of additional transport solutions and consequently recommendations of the others transport projects and solutions

III.5 Analysis of technical infrastructure systems potential

Evaluation will be done in following structure:

1. Electric energy supply with evaluation of capacity of the important producers and transmission system,
2. Gas, oil supply and distribution with evaluation of the Transit Very High Pressure Gas pipe and Very High Pressure Gas pipe, Oil pipes
3. Water management with evaluation of outflows, protection of water resources, water flows, drinking water supply (important water supply systems) important resources of drinking water evaluation of sewage systems and treatment stations,
4. Evaluation of the use of alternative sources of energy supply (geothermal, solar, wind ...)
5. Virtual technical infrastructure (electronic, telecommunication ...)

The proposal of the TI development outcomes from the evaluation of the position of the state and regions to the energy resources, transit lines of gas to the EU markets, drinking water resources of great importance and relevant European trends in following areas:

1. primary energetic resources
2. electric energy
3. water management
4. alternative sources of energy

On the basis of complex evaluation of the corridors and technical infrastructure facilities the list of development project will be specified in above mention sector of TI.

IV. Economy development in the danubian region – approaches and solutions

According to the assignment of the project “Donauregionen”, the aim of the general scheme “Economy” will be the following:

1. evaluate the economic potential, the conditions of its development and the economic level of the regional development in the area of the danubian development corridor,
2. transpose the perspective development objectives and plans as well as the sectoral conceptions into the development of the different regions,

3. create a crucial basic document used for the elaboration of summary reports for the whole area defined as the danubian area

When evaluating the above-mentioned functions it will be necessary to take into account above all the Lisbon strategy. The audacious aim of the Lisbon strategy requires the completion of a common interior market, a coordination of economy policies and an integration of the financial markets of the EU member states. An important place is devoted to the support of information technologies, innovation processes and investments into the human resources capital, mainly in the improvement of the educational potential of the population, including small and medium enterprises support focused on the decrease of unemployment rate.

IV.1 Working procedure for the elaboration of the general scheme Economy

It is useful to divide the procedure of elaboration of the general scheme into three stages:

- Collection and processing of the data basis concerning the economic level and potentials of the respective regions,
- Evaluation of the development potential of the regions in the danubian development corridor at the level of NUTS 2 and NUTS 3 regions, on one hand on the grounds of the assessment of the existing conditions determined by the statistical data and on the other hand on the basis of the information obtained from the national and regional development conceptions and plans as well as from the current sector conceptions and programs,
- Elaboration of proposals for the economic development of the regions in the danubian development corridor.

IV.2 Evaluation of the economic level and development potential of the region

IV.2.1 Evaluation of the economic level of the region

The evaluation of the economic level of the regions at the NUTS 2 and NUTS 3 level will be based on the GDP indicator for the respective region in the period 1996 – 2004. This indicator will be expressed as following:

1. GDP for the region in EUR,
2. GDP for the region in the national currency,
3. GDP for the region expressed in buying power,
4. GDP per inhabitant expressed in buying power.

The data basis for the evaluation will consist of statistic data about the GDP, divided as mentioned above, and published by Euro stat for the different years in the time span 1996 – 2004.

IV.3 Evaluation of the development economic potential of the region

The Evaluation of the development economic potential of the region will be realised on the NUTS 2 and NUTS 3 level.

The Evaluation of the development economic potential of the region will consist of:

1. primary resources (natural potential)

- petrol,
- natural gas,
- ore raw materials,
- non-ore raw materials,
- forest resources,
- land resources.

The importance of the natural resources for the development of the economy of the region will be defined through the means of the relation of the structure of the disponible material resources and the specific needs and conditions in the respective region, classified into three classes of importance:

- h - high importance in the region,
- m - medium importance in the region,
- s - low importance in the region.

2. secondary resources (potential created by human activity)

The evaluation will be focused on three basic domains:

- working potential of the region and regional labour market,
- sectoral structure of the regional economy,
- educational structure of the inhabitants of the region,

The evaluation of secondary resources will be realised on the basis of the following indicators:

IV.3.1 Working potential of the region and regional labour market

- number of inhabitants of the region in working age
- number of economically active population in the region
- unemployment rate in the region.

IV.3.2 Sectoral structure of the regional economy

The sectoral structure of the regional economy on the NUTS 2 level will be defined through the means of the employment rate according to sectors:

- I. sector (Sections A,B,C),
- II. sector (Sections D,E,F),
- III. sector (commercial services – Sections G,H,I,J,K),
- IV. sector (non-commercial services – Sections **L, M, N, O, P, Q**)

The structure of the regional economy will be assessed more precisely at the NUTS 3 level, according to the NACE classification – indicators according to ten categories:

1. Agriculture, hunting and forestry (Section A,B),
2. Mineral resources extraction (Section C),
3. Industrial production (Section D),
4. Production and distribution of electric energy, gas and water (Section E),
5. Construction (Section F),
6. Wholesale, retail, reparation services for cars and consumer goods (Section G),
7. Hotels and restaurants (Section H),
8. Transport, telecommunications, warehousing (Section I),
9. Other commercial services (Sections J and K),
10. Non-commercial services (Sections L, M, N, O, P, Q),

The classification of economic activities and the list of NACE codes are listed in the supplement.

The following relevant procedure may be adopted for the evaluation of the economy of the region:

- classify economic activities into ten categories,
- the importance of the category is expressed by the number of employees.

For the purposes of economic evaluation of the regions it is also possible to use the indicators mentioned below (recommended):

1. Labour productivity in the domain of industry,
2. Labour productivity in the domain of agriculture,
3. Labour productivity in the domain of construction,
4. Average monthly salary in the domain of industry,
5. Average monthly salary in the domain of construction,
6. Average monthly salary in the domain of agriculture,
7. Deposits per inhabitant,
8. Retail turnover per inhabitant,
9. Residential area per inhabitant,
10. Number of persons per one doctor,
11. Number of hospital beds per 1000 inhabitants,
12. Number of pupils per class,
13. Number of inhabitants per telephone station
14. Gross turnover created in the region'
15. Added value created in the region.

Educational structure of the inhabitants in the region

- Share of inhabitants with primary education,
- Share of inhabitants with secondary education,

- Share of inhabitants with higher education,

It is necessary to complete the evaluation of the economic level and potential of the regions with the intentions of the regional development plans and sector conceptions which will be influencing the development of the different regions in the future.

IV.4 Summary evaluation of the level and use of the regional potential and proposals for structural changes of regional economy

The summary evaluation of the level and use of the regional potential will be focused on two main domains:

1. Evaluation of the development level of the region at the NUTS 3 level, where the basic indicator will be GDP per inhabitant expressed in buying power compared to the average EU 25 indicator. The classification of the regions will be as mentioned below:
 - Level of GDP per inhab. of the region lower than 75% of the EU average – underdeveloped region,
 - Level of GDP per inhab. of the region between 76% - 89% of the EU average – problematic region from the structural point of view
 - Level of GDP per inhab. of the region between 90% - 100% of the EU average – stabilised region
 - Level of GDP per inhab. of the region higher than 100% of the EU average – developed region
2. The evaluation will be completed by an evaluation of the economic potential of the region realised through the means of a SWOT analyse which will asses the strengths and weaknesses as well as the risks of the future development.

According to the evaluation stated in the general scheme the final part will consist of development proposals expressing the basis of the necessary changes in the economy of the different regions. These proposals will be expressed by concrete investment programmes and projects with a character of public and private investments. The future development of the region will be than based on the use of the strengths and assets and on the elimination of the weaknesses and risks of the development.

We are supposing an innovation of the contents of the other general schemes according to the assignment of the project.