

THE INSTITUTE FOR URBANISM OF  
REPUBLIC SRPSKA  
BANJALUKA

## **ECOLOGY REFERENCES**

BANJALUKA, november 2004.

During its long-term tradition, the Institute has been cooperated with many international institutions, educational centre, participated in designing and realization of many projects dealing with environment protection and improvement. During the last two years, the Institute for Urbanism s. c. of Republic Srpska was engaged as local consultant in designing of the projects within the area of integral concept of environment protection. Project realization was accomplished in cooperation with famous world's institutions – AEA Technology from Great Britain, Imperial College (Imperial College of Science, Technology and Medicine) and CUW (Center for Urban Water), London, University of Calabria's (Universita di Calabria, Consenza) in Italy, and IRTCUD System (International Research and Training Center on Urban Drainage supported by UNESCO). The most relevant projects came out this cooperation are the following:

- Sustainable Rehabilitation of Urban Environmental Systems [LIFETCY98/BHZ/165]
- INFRA RED: Institutional FRamework for Regional Environmental Development [LIFE TCY/BIH/042]
- LICENSE: Local Institutional Capacity Development in Environmental Sensitive Areas [LIFE TCY/BIH/04]
- PHARE «Solid Waste management of BIH »
- JICA – Study on sustainable development trough Eco – tourism in BIH
- Self-assessment for the preparation of a project proposal for Bosnia and Herzegovina's Initial National Communication to the UNFCCC”.

IURS also participates in the making of National Ecology Action Plan for Bosnia and Herzegovina (NEAP), which is the part of unique ecology plan at level of European Community. This new program establishes the goals and tasks for the following ten years, as well as the actions and measures should be undertaken in following 5-10 years for their accomplishment. The actions and liabilities are determined at national, local and regional level as well as in different economic sectors. Economic use of resources and conservation of global eco-system together with balanced economy and social development are basic conditions for sustainable development, i.e. main guideline of this national plan (program).

At exhibition of innovations in Brussels, Eureka in 2000 year, the Institute for Urbanism of RS, s.c. won the golden medal for informatics support to sustainable development, as well as special recognition from Ministry for budget, culture and sport of Belgium Kingdom, for the support in innovation activities. At same exhibition, the Institute won the golden medal for graphic introduction and protection of its image and

business philosophy, as well as golden medal of European association for promotion and commercialization of inventions and researches.

Today, Institute even more aims at multidisciplinary approach in its activities, design of the plans, programs, projects, and studies. That integration is also reflected in design of ecology studies made as the result of common activities of different specialized departments.

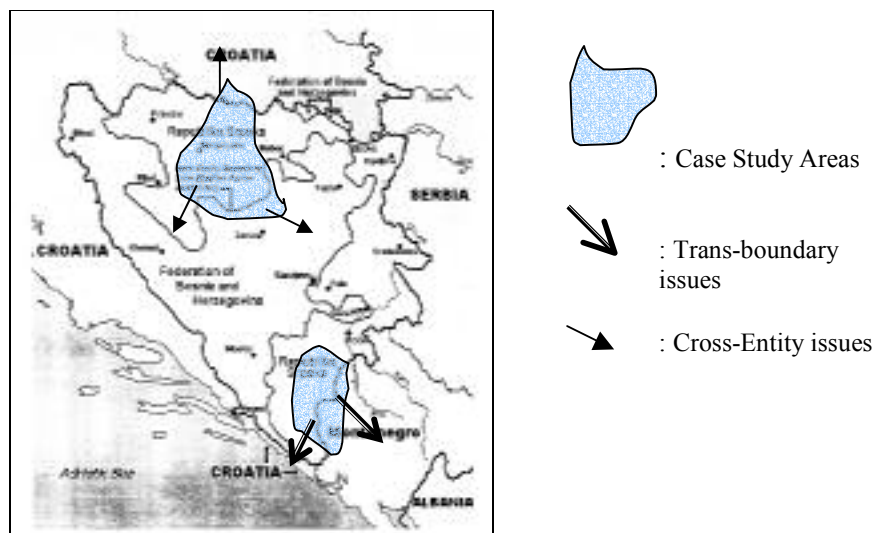
Besides the ecology studies, the survey of object's effects in space are also attached as enclosures of different plans and projects (spatial, urbanism plans, regulatory plans and the plans of plotting).

## **Sustainable Rehabilitation of Urban Environmental Systems [LIFETCY98/BHZ/165]**

Basic contribution of the final **LIFETCY98/BHZ/165** project was the training of local specialists in recognition of integral modeling of urban water supply systems. Main goal was the reduction of the degradation of environment by application of sustainable choices and strengthening of basic ecology approach in all projects of urban waters, as part of total environment management. It is also foreseen the cooperation with non-government organizations- Regional Centre for Environment (REC, Budapest Hungary) on creation of the network of youth ecologists section in the high schools as the way of implementation concept of raising the social awareness related to environment protection. Cooperation with above mentioned Universities is also reflected through the trainings and attendance at workshops as additional form of our staff education (training and workshops on Imperial College and on the University in Calabri).

IURS also conducts a successful realization of the two latest LIFE projects – INFRA RED: Institutional FRAMework for Regional Environmental Development [LIFE TCY/BIH/042] i **LICENSE**: Local Institutional Capacity Development in Environmental Sensitive Areas [LIFE TCY/BIH/04].

## Infra-RED - Institutional Framework for Regional<sup>i</sup> Environmental Development



Bosnia and Herzegovina with its two entities and Case Study Areas with a schematic of transboundary and cross-entity issues

The regional and local environmental planning framework, guidelines and decision support tools will be applicable to the whole of the RS. The pilot case studies will focus on two areas: on the river basin of Vrbas and the karstic river system of Trebisnjica. The overall results and methodology proposed would be however applicable to both entities of BiH and aim to promote cooperation through establishment of best management environmental practices approach serving as a basis for intra-regional cooperation.

### Project Objectives

#### Specific Objectives

The main objective is to **establish environmental planning and pollution prevention capacity on a regional (river basin) and local level in RS** that would be also applicable to other regions of Bosnia-Herzegovina. More specifically the project deals with the following key points:

- Investigate all available options and propose a cooperation framework between the **government level** environmental policy making and the **regional** (catchment) level

management planning and operational management. Interactions between legal, technical, institutional, financial and socio-economic aspects will be investigated.

- Investigate all available options and propose a cooperation framework between the **regional** (catchment) level management planning and the **local** authorities implementing the plans. Interactions between legal, technical, institutional, financial and socio-economic aspects will be investigated.
- Propose methodology for materialising environmental policy into environmental action plans and for materialising action plans into local level specific measures. The methodology and its software support, developed in IC, will be adjusted to the particular needs of the area
- Train both regional and local level experts and provide them with understanding of both the methodology proposed and the new technology that will be introduced to assist this process.
- Test the methodology and tools as well as the transboundary and cross-entity conflict resolution procedure, through two case studies of catchment scale environmental planning and management in particular complex sites (the river basin of Vrbas and the karstic river system of Trebisnjica)
- Raise public awareness through workshops disseminating the results of the project and involving local NGOs in the discussion

## Relevance

The project **assists the “establishment of capacities and administrative structures needed in the environmental sector”**, on a regional and local level by providing training, guidelines, operational framework and technical support (technology transfer), to a region under a pressing need for re-development. Additionally it **assists “ the development of environmental action programmes in third countries”** (through guidelines, framework and two case studies) keeping in mind the environmental legislation and policy currently under development (supported by E.U.), and at the same time assists the application of the action plans on a local level by training and providing application support to the local level players (local authorities, local environmental officers, local NGOs, clusters of communities). Both the **extension of environmental policy towards catchment scale action plans and towards local implementation** are valid objectives on their own right and additionally **provide “added value” to current E.U. projects<sup>4</sup>** on the area.

## Strategic Option

The strategic task pursued is to enable catchment and sub-catchment scale environmental planning and aid local implementation of the environmental plans. The project’s pre-analysis and management stage took into account the current situation in Bosnia Herzegovina (economic, legislative and environmental) and in particular RS and the ongoing efforts<sup>iii</sup> (supported by the E.U.). The analysis phase then identified gaps in the currently undertaken activities in this area and particularly in: (a) cooperation

between local-regional-national environmental authorities (b) guidelines and technology for catchment and sub-catchment scale environmental planning and management and (c) trained professionals in the environment sector in all levels. This gap will be filled by the current project.

### **Detailed description of results**

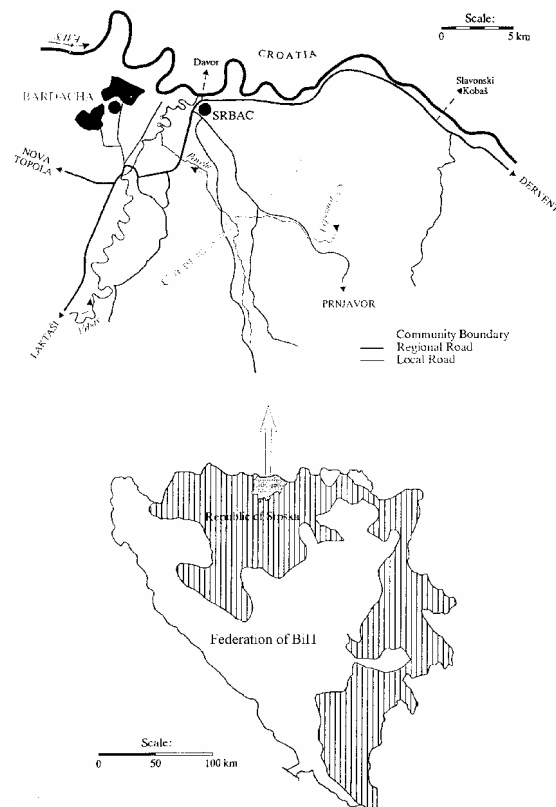
The intermediate results leading to the main purpose and thus to the overall objective of the project are:

1. Synthesis of the up-to-date situation and identification of gaps in environmental planning and development in RS taking into account:
  - Current practices (both in environmental control and economic development)
  - Personnel availability and training needs
  - Institutional capacity and administrative structure on national, regional and local scale
  - New environmental legislation (in progress)
  - New water authorities (in progress)
  - New solid waste management scheme (in completion phase)
  - New environmental management and control framework on a national level (in progress)
  - Detailed description of environmental pressures and issues in characteristic catchment areas that can serve as a prototype for extrapolation
2. Development of the missing link between national policy and regional planning (river catchment and sub-catchment level) through the development of a framework for national-to-regional cooperation
3. Development of the missing link between regional planning (river catchment and sub-catchment level) and local implementation through the development of a framework for regional-to-local cooperation (both 3 and 4 will serve as basis for a future Environment Agency practice)
4. Development of the local ability to produce and implement regional environmental action plans through elaboration of guidelines, training and software support
5. Pilot studies on regional environmental planning (action plans) in two particularly complex river basin systems serving as test of the methodology and tools proposed as well as an example for application in other areas in the RS. It is within the aims of the project to provide through these environmental plans a basis for planning and cooperation on a cross-entity (with FBiH) and a trans-boundary scale (with Croatia).

6. Increase in the number of trained professionals in the environmental protection and management field, which is vital to the sustainability of the project beyond the project economic horizon
7. Rise in public awareness through workshops information dissemination and open discussions
8. Transfer of state-of-the-art technology for decision support on regional and local level from the E.U. to the local authorities

## LICENSE: Local Institutions Capacity Development in Environmentally Sensitive Areas

The local environmental planning framework, guidelines and decision support tools will be applicable to local authorities in the whole of the RS. The pilot case study will focus on the Bardaca Wetland situated in the flood plain between the right bank of Save river and the left bank of Vrbas river in Republic Srpska (RS). A map of the area can be seen in Figure 1. A detailed discussion of both the area and its problems is included in §2.4 of this Technical Description. The overall results and methodology proposed would be applicable to the State of BiH (including RS and FbiH) and aim to promote cooperation on a local community level between the various stakeholders (SMEs, local authorities, NGOs, DoE and Environment Agency).



The Bardaca Wetland

## Overall Objective

Aid the local communities (including local authorities, NGOs and SMEs) to develop their capacity in planning and implementing environmental action programmes, in order to effectively protect sensitive ecosystems (like the Bardaca Wetland) while developing their full economic potential which is urgently needed for re-development due to the post-war situation in BiH and in RS in particular.

## Project Purpose

Establish environmental planning and pollution prevention capacity on a local scale in RS (and in particular the Bardaca Wetland region), by providing training to local authorities in planning and implementing local environmental action plans and SMEs and other local stakeholders to comply with them. To develop and coordinate a local “advisory board” assisting cooperation and conflict resolution in sustainable economic development. To provide the necessary guidelines and decision support tools to assist the planning and implementation process. To prepare a detailed environmental action plan for the Bardaca region as a means of an example of the organisational framework, technical guidelines, conflict resolution procedure and software support while preventing irreversible damage to this particularly important wetland and increasing economic opportunities and amenities values in an impoverished area.

## Specific Objectives

The main objective is to **establish environmental planning and pollution prevention capacity on a local level in RS** that would be also applicable to other regions of Bosnia-Herzegovina. More specifically the project deals with the following key points:

- ⊕ Investigate all available options and propose a cooperation framework between the **local authorities, the environmental agency, the department of the environment and the local stakeholders (including SMEs and NGOs).**
- ⊕ Propose methodology for developing detailed local level environmental action plans (LEAPs) and for applying them through local level specific measures. The methodology and its software support will be adjusted to the particular needs of the area.
- ⊕ Train local level professionals and provide them with understanding of both the methodology proposed and the new technology that will be introduced to assist this process. Propose a conflict resolution methodology and framework to assist local cooperation, coordination and smooth environmental regulations application.
- ⊕ Form a “advisory board” including all major stakeholders to coordinate cooperation on a local scale. This will serve as a prototype for other areas within RS and the BiH.
- ⊕ Test the methodology and tools through developing a detailed environmental action plan for the area, proposing new environmentally friendly economic activities and regulating the current ones. This will result in protecting a sensitive ecosystem and

economically developing an impoverished area while complying with E.U. and RS environmental regulations.

- ⊕ Raise public awareness through workshops, multimedia and local (environmentally oriented) TV station and provide sustainability by linking the Bardaca wetland to Montajico-Gradina mountain ecological centre.

## Relevance

The project **assists the “establishment of capacities and administrative structures needed in the environmental sector”**, on a local level by providing training, guidelines, operational framework and technical support (technology transfer), to a region under a pressing need for re-development. Additionally it **assists “ the development of environmental action programmes in third countries”** (through guidelines, framework and a worked example of an environmental action plan) keeping in mind the environmental legislation and policy currently under development (supported by E.U.), and at the same time assists the application of the action plans on a local level by training and providing conflict resolution support to the local stakeholders (local authorities, local environmental officers, local NGOs, clusters of communities). The strengthening of the environment sector’s capacity is further assisted by forming a “advisory board” including the local stakeholders coordinating the cooperation on a local level. This is considered vital for effective conflict resolution and smooth environmental measures application. The **extension of environmental policy towards local implementation** is a valid objective in its own right and additionally provides **“added value” to current E.U. projects** in the area (Environmental Legislation development (in progress), Government level operational framework and guidelines for the environment sector (in progress), Regional level operational framework and guidelines for the environment sector (proposed)).

## Strategic Option

The strategic task pursued is to change the paradigm in developing local economic activities in environmentally sensitive areas and assist the development and local implementation of detailed environmental action and sustainable economic development plans. The project’s pre-analysis stage took into account the current situation in Bosnia Herzegovina (economic, legislative and environmental) and in particular RS and the ongoing efforts (supported by the E.U.). The analysis phase then identified gaps in the currently undertaken activities in this area and particularly in: (a) cooperation between local stakeholders (including local authorities, NGOs, SMEs and the agricultural sector) (b) guidelines and technology for local scale environmental planning, implementation and conflict resolution and (c) trained professionals in the environment sector on a local level. Furthermore the analysis identified an imminent danger of irreversible damage in a sensitive ecosystem of international importance in an area desperately in need of viable economic development. These issues will be dealt within the current project.

## Detailed description of results

The intermediate results of the project are:

1. Synthesis of the up-to-date situation and identification of gaps in environmental planning and development in the Bardaca area taking into account:
  - a. Current practices (both in environmental control and economic development)
  - b. Personnel availability and training needs
  - c. Institutional capacity and administrative structure on national, regional and local scale
  - d. New environmental legislation (in progress)
  - e. New environmental management and control framework on a national level (in progress)
2. Detailed description of environmental pressures and issues in the area and current economic development process
3. Development of the ability to produce and implement detailed local environmental action plans through elaboration of guidelines, training and software support
4. Forming of an “advisory body” including local stakeholders to coordinate the application phase and resolve local conflicts.
5. Pilot study on local environmental and sustainable economic development planning in the wetland region. Specific protection measures will be proposed as well as specific economic development programmes, which are environmentally friendly and will help develop the true potential of an impoverished area.
6. Strategy for development of new forms of small businesses (support scientific tourism, handicrafts based on wetland products, communication-based services, health food production)
7. Increase in the number of trained professionals in the environmental protection and management field, which is vital to the sustainability of the project beyond the project’s economic horizon
8. Framework for the adoption by the stakeholders (i.e. SMEs) of the planning recommendations and facilitation of the compliance and licensing procedure through the development of private EMS.
9. Rise in public awareness through workshops, open discussions and media (local environmentally-oriented TV station).

## **PHARE “Solid Waste management of BiH”**

As it was mentioned the Institute was engaged as the local consultant on making of the project `Strategy of solid waste management`, which leader was AEA Technology from Great Britain, and the project was a part of **PHARE** program of European Union. Basic project target was the solving of solid waste disposal problem from industrial enterprises, hospital, ambulance, and centre for transport and waste disposals as well as centre for waste recycling at many sites of BiH territory. This project was done in the cooperation with entity, cantonal and municipal government and non government departments within Bosnia and Herzegovina and the representatives of EU.

Within PHARE program, there is also preparation of environment legislation for Bosnia and Herzegovina. The Institute took the participation in the organization and the operation of the workshops related to the preparation and design of legislation in the area of environment.

EU Phare funded thee project for development of state solid waste management strategy that would cover the whole territory of Bosnia and Herzegovina . The strategy comprised house, industrial, medicine and construction waste and drawn the road which would provide waste management in Bosnia and Herzegovina, in long term perspective reach an European standards.

The manager of state strategy was AEA Technology Environment from UK, specialized consulting company with huge experience in waste management and protection of environment affairs, with local consultants from The Institute for Urbanism of Republic Srpska Banja Luka and Unioninvest and the Institute for water management, Sarajevo for Federation.

Project aim was be development possibilities waste management alternatives and plans for collecting, transporting, recycling and dumping all of waste category ( municipalities, industrial, medical, constricted and demolished waste.

Also aim of project was be capacity balding organisations, whose have responsibilities for waste management in side structural sector, legislations, financials etc

The Project gives developing possibilities for short- time, meddle- time and long-time based on two different concepts, entities and multi-entities.

**The document with two concepts have accepted of legal entities bodies and after that process implementation is begin. Next few maps present the Strategy concepts for developing specifics waste management part.**

## **JICA – Study on sustainable development through Eco – tourism in BiH**

*Task 1* - Basic information on natural environmental resources as well as cultural historical resources and other available data were collected at site visits and hearing of the relevant persons or institutes. IURS team use the common methodology of field work, normally used for field data collecting in the information-documentation phase of urban and physical planning.

*Task 2* - Database for visualizing of the collected information was formed from the combining lists and CAD maps which includes the following:

- a) list of the each resources with basic information,
- b) map that illustrate the location of each resources,
- c) information on seasonal change of each resource(a kind of calendar), and
- d) information on bio-diversity of flora and fauna, unique or endangered species.

After completion, it is integrated into GIS database.

*Task 3* - Preliminary evaluation of the resources listed was conducted with regard to uniqueness, fragileness and effectiveness as tourism resource. Appropriate criteria was formulated for this appraisal, based on the simple SWOT analysis, Guide to defining natural and social indicators in environmental / social impact assessment. Basic indicators comprise: Condition, Human activity and Management response, and were supplemented with additional JICA Study Team's indicators.

A team of experts of the IURS carried out the Study in close collaboration with the counterpart (sub-consultant) from another entity. Additional experts and assistants were mobilized by IURS for various tasks to augment the capacity of the IURS/FBiH Counterpart joint team.

## **Self-assessment for the preparation of a project proposal for Bosnia and Herzegovina's Initial National Communication to the UNFCCC".**

Upon the proposal of the Ministry of Physical Planning, civil engineering and ecology of RS, performing the function of Focal Point of BiH in Framework Convention of UN about climatic changes, the government of Republic Srpska at the end of December of 2000 year engaged the Institute for Urbanism of RS, s. c . Banjaluka as the coordinator for design and implementation of the program of activities for conduction of Convention and provision of expert-technical assistance.

In January of 2001 year, Institute established the Secretariat for climatic changes of BiH which operates as executive-operative body by Focal Point and having the target to provide expert-technical support to Focal Point and other structures. Currently, Institute works on the project: Self-assessment for the preparation of a project proposal for Bosnia and Herzegovina's Initial National Communication to the UNFCCC".

---