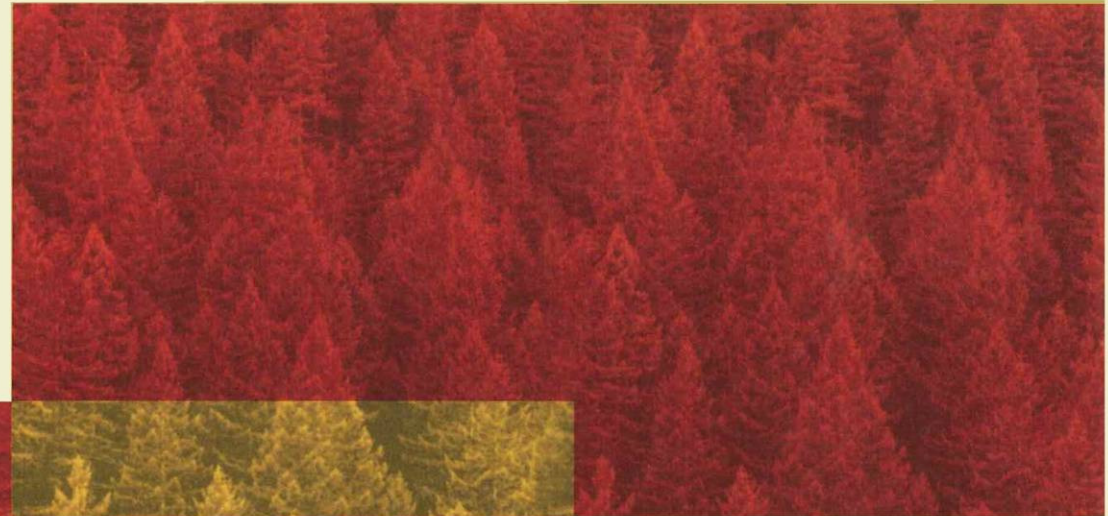![E.C.O. logo]

Institut für Ökologie

# TRANSBOUNDARY INFORMATION EXCHANGE FOR REVISION AND FUNCTIONAL IMPROVEMENT OF ZONATION OF THE LOWER MORAVA BIOSPHERE RESERVE (CZECH REPUBLIC)

| Title: | Transboundary information Exchange for Revision and Functional Improvement of Zonation of the Lower Morava Biosphere Reserve (Czech Republic) |
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**Lower Morava Biosphere Reserve**

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Klagenfurt, Oktober 2010

# TRANSBOUNDARY INFORMATION EXCHANGE FOR REVISION AND FUNCTIONAL IMPROVEMENT OF ZONATION OF THE LOWER MORAVA BIOSPHERE RESERVE (CZECH REPUBLIC)

| | |
|---|---|
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# CONTENT

### *Abbreviations*

BR      Biosphere Reserve

IPAM   Integrated Protected Area Management

LMBR  Lower Morava Biosphere Reserve

PA      Protected Area

WBP   Biosphärenpark Wienerwald

WD     Working days

WP     Work package

# 1 INTRODUCTION

Within the MAB-Project, a planning- handbook for the zonation process of the "Lower Morava Biosphere reserve in the Czech Republic was prepared.

The existing zonation has been done without focusing on the new MAB-biosphere reserve concept described in the Seville strategy.

The main objective of the project was to develop a planning handbook, for the guidance of the BR-Management throughout the zoning process which will be useful for other BRs as well.

In order to improve the zoning process of the Lower Morava Biosphere Reserve (LMBR) cooperation with Wienerwald Biosphärenpark (WBP) was requested. The WBP was chosen as partner of LMBR due to its geographical proximity, similarity in terms of management structures and its mutual understanding of modern BR functioning.

E.C.O. Institute of Ecology has been involved in the planning and zoning process of the WBP during the years from 2003 till 2005. In this context E.C.O. was appointed as consultant in the MAB-project. There tasks have been to facilitate the preparation of the planning handbook and to bring in their conceptual knowledge gained and developed in the course of work within other international projects (e.g. the IPAM-Toolbox for integrated protected area management).

## 1_1 Background and scientific aspects

In accordance with tasks listed in the Madrid Action Plan (chapter E.2., Goals 12, 13, 14) it is necessary for every BR to provide a functional zonation. The Zonation of a BR reflects the spatial implementation of the BR's objectives given by the Seville strategy. The zonation has to be done according to the ecological, social and economic objectives of the BR. Furthermore already the zonation process should be carried out in a participative way, means to involve all relevant stakeholders in this important development phase.

Work meetings of both, the LMBR and the WBP management staff led

to the conclusion that for a zonation improvement in the LMBR it will be necessary and useful to create a mutual international project. The aims of that project should have been the technical support and the information exchange between the two BRs to progress the zonation revision and furthermore the functional improvement of the zonation in the Lower Morava Biosphere Reserve.

As the WBP has gained quite recent experience of zonation by implementing the zonation process themselves, this know-how on the process should be transferred to LMBR. Thus LMBR should meet the goal of being part of a world wide network of BRs and to act as a model for other regions.
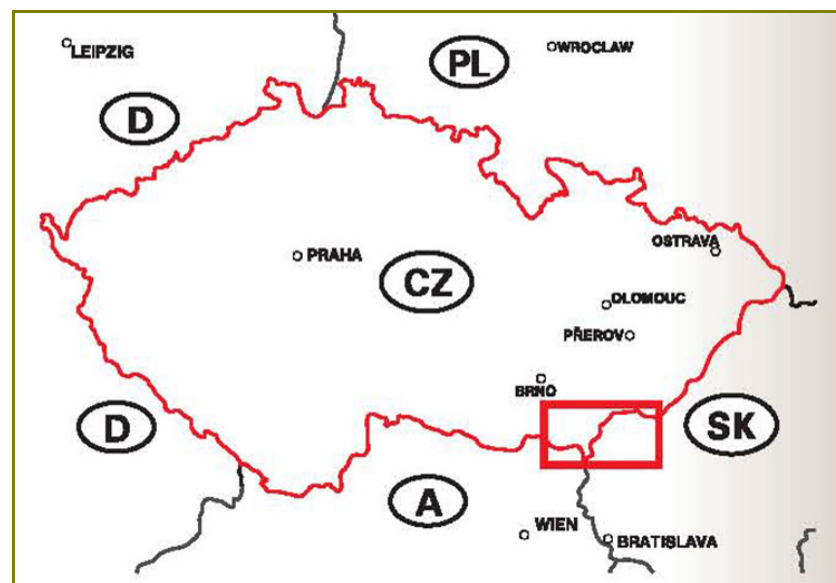


*Graph 1: The Lower Morava Biosphere Reserve is located in the triangle of Czech Republic, Republic of Slovakia and Austria.*
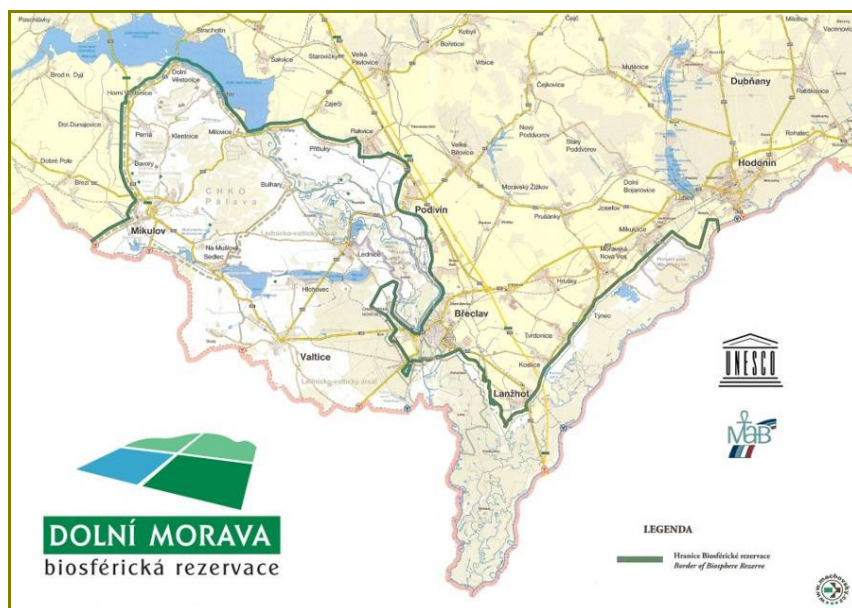
*Graph 2: Actual outer boarder of the Lower Morava Biosphere Reserve.*

### History of LMBR

In 2003 the Committee of the International Coordination Council of UNESCO's MAB programme in Paris approved the extension of the former Pálava Biosphere Reserve (designated in 1986) to include the Lednice-Valtice Cultural Landscape World Heritage Site and the floodplain forests at the confluence of the Morava and Dyje rivers. The newly designated area, was renamed „Lower Morava Biosphere Reserve".

The LMBR's zonation proposal prepared by Czech nature conservation authorities is part of the nomination documentation. The zonation draft lacked some aspects that modern BR should maintain and therefore consequentially zonation can not properly function. This obvious fact reveals the need for a revision of the whole zonation proposal.
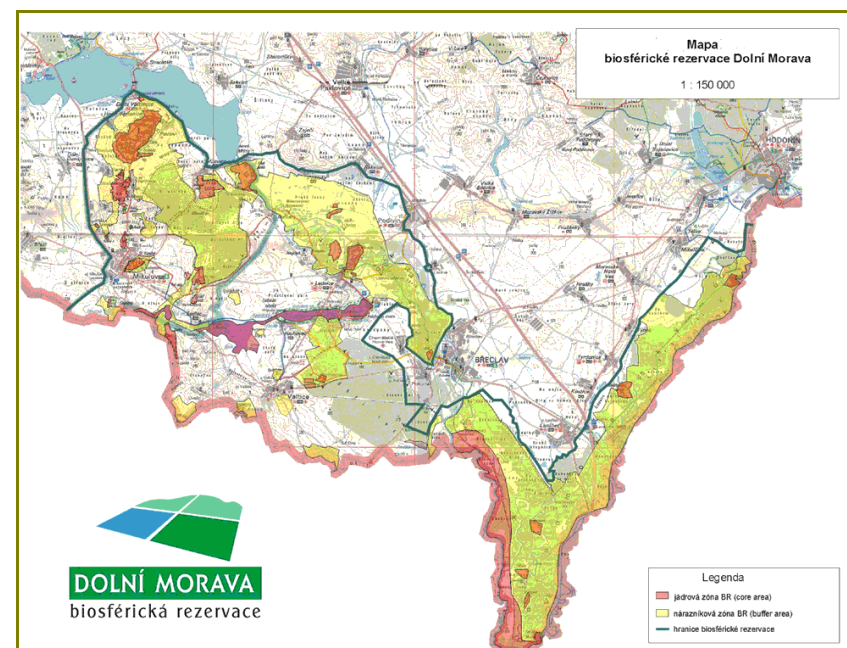


*Graph 3: Actual zonation of the Lower Morava Biosphere Reserve.*

The BR is located in a region that has been formed by human activity for centuries. Therefore every remnant of the original habitat is precious. On the landscape level three main parts can be distinguished.

The south-eastern part is characterized by the rare Central European lowland floodplains along the lower reaches of the Kyjovka, Dyje and Morava rivers covered with man-managed hard-wood alluvial forests and continental flood-plain meadows (some 8 000 ha).

The central part is build by soft hills and valleys that form a gentle landscape with traditional agriculture topped by grain fields, vineyards, oak forests and scots pine plantations and other mostly intensively farmed agricultural land. Historical fish ponds with ongoing fish farming and other elements of the historical landscape / garden architecture including castles are the "trade mark" of the largest European man made landscape - Lednice-Valtice Cultural Landscape - World Heritage Site.

The western part is characterized by the limestone cliffs with dry meadows and abandoned pastures. This whole area is also well known for its traditional agricultural use dominated by traditional wine production with long history. The karst, oak-hornbeam forests, thermophilous oak forests, scree forests can also be found here.

The whole BR is an important bird nesting area and migration stop.

**Background of the handbook**

According to the Toolbox for Integrated Protected Area Management (www.ipam.info) the zonation is part of the basic planning phase. The first step within this basic-planning phase is the development of a planning handbook.

The objective of the project is, to set up a planning handbook for the following zonation process.

The planning handbook will cover the following topics:

- Analysis of the actual situation (present zonation, legal status, ownership)

- Analysis of the stakeholders, which should be involved

- Analysis of available spatial and statistical data

- Methodological concept of the zonation process

- Definitions of the working-steps and workflow (including timeframe, responsibility and needed resources)

- Definition of the organisational structure for the zonation process (steering, operating and controlling bodies)

Based on the planning handbook, the zonation process can be implemented by LMBR.
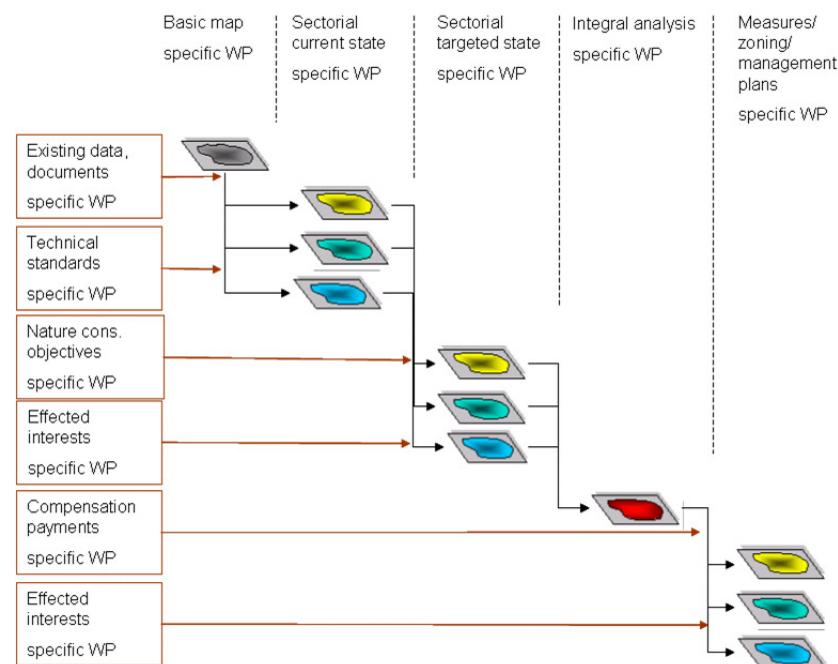


*Graph 4: The picture depicts the technical-textual connection between the work packages. Source: [E.C.O. Institut für Ökologie, 2005]*

## 1_2  *Project implementation*

An international project group was assigned to supervise the process:
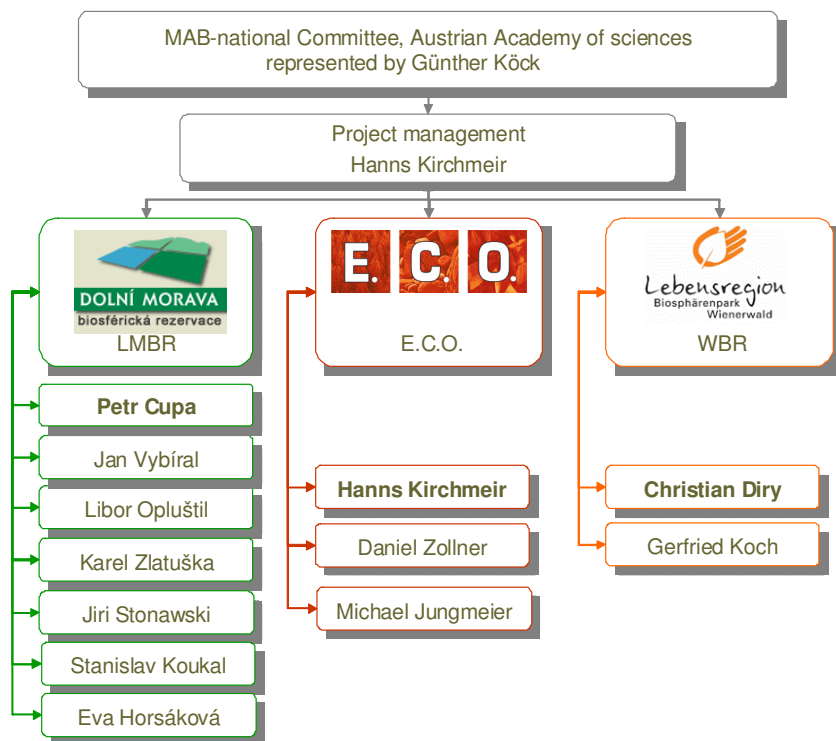


Graph 5: Project group.

The responsibilities of the three project partners have been the following:

E.C.O.: Development of the methodical concept; moderation of the workshops, documentation of the concept within the planning handbook.

LMBR: Organisation of the workshops, preparation of the needed data and information, contacting and inviting local stakeholders, translation, implementation and documentation of the zonation process.

WBP: exchange of experience within the workshops, supervision of the process

The following steps of implementation have been done:

- Implementation of the project group (14.12.2009, Lednice CZ)
  - Methodological concept of the zonation process
- First internal workshop (23.2.2010, Lednice CZ)
  - Analysis of the actual situation (present zonation, legal status, ownership)
  - Functions of different zones
  - Analysis of the stakeholders, that should be involved
  - Analysis of available spatial and statistical data
- Data collection, dissemination of results to all project partners
- Second internal workshop (14.4.2010, Wienerwald, AT)
  - Exploring the situation in BP Wienerwald (presentations, excursion)
  - Logical framework analysis
- Third workshop 22. + 23.6.2010 (Bulhary, CZ)
  - Definition of the working-steps and workflow (including timeframe, responsibility and needed resources)
  - Discussion of the draft planning handbook
- Compilation of results into the draft planning handbook
- Dissemination of the draft to all project partners

## 2 RESULTS

The results of the discussion process are separated into several thematic chapters. The first chapter gives a review on the definition of zones according to the relevant UNESCO papers.

The following chapter is dealing with the first overview on the different stakeholder groups in the LMBR.

After this the problems that LMBR is facing are worked out by using the method of a problem tree.

Based on this problem tree, a logical framework was developed and discussed.

All this steps led to the definition of working steps, an estimation of needed resources and a time table of mile stones.

### 2_1  Relevant descriptions on zonation by UNESCO papers

The "Seville Strategy for Biosphere Reserves" (1995) forms the conceptual basis for modern BR.

In the chapter "The Biosphere Reserve Concept" of the Seville Strategy a qualitative description of the different zones and their management is given:

*"Physically, each biosphere reserve should contain three elements:*

*one or more **core areas,** which are securely protected sites for conserving biological diversity, monitoring minimally disturbed ecosystems, and undertaking non-destructive research and other low-impact uses (such as education);*

*a clearly identified **buffer zone**, which usually surrounds or adjoins the core areas, and is used for co-operative activities compatible with sound ecological practices, including environmental education, recreation, ecotourism, and applied and basic research;*

*and a flexible **transition area**, or area of co-operation, which may contain a variety of agricultural activities, settlements and other uses and in which local communities, management agencies, scientists, non-governmental organizations, cultural groups, economic interests and other stakeholders work together to manage and sustainably develop the area's resources.*

*Although originally envisioned as a series of concentric rings, the three zones have been implemented in many different ways in order to meet local needs and conditions."*

*URL: http://unesdoc.unesco.org/images/0010/001038/103849Eb.pdf*

The main criteria for the zonation of BRs can be found in the "The Statutory Framework of the World Network of Biosphere Reserves" (URL http://www.sovereignty.net/tline/statutory-framework.htm). The relevant information is listed in Article 4 of the Statutory Framework:

*"Article 4 - Criteria*

*General criteria for an area to be qualified for designation as a biosphere reserve:*

1. *It should encompass a mosaic of ecological systems representative of major biogeographic regions, including a gradation of human interventions.*

2. *It should be of significance for biological diversity conservation.*

3. *It should provide an opportunity to explore and demonstrate approaches to sustainable development on a regional scale.*

4. *It should have an appropriate size to serve the three functions of biosphere reserves, as set out in Article 3.*

5. *It should include these functions, through appropriate zonation, recognizing:*

*(a) a legally constituted core area or areas devoted to long-term protection, according to the conservation objectives of the biosphere reserve, and of sufficient size to meet these objectives;*
*(b) a buffer zone or zones clearly identified and surrounding or contiguous to the core area or areas, where only activities compatible with the conservation objectives can take place;*
*(c) an outer transition area where sustainable resource management practices are promoted and developed.*

6. *Organizational arrangements should be provided for the involvement and participation of a suitable range of inter alia public authorities, local communities and private interests in the design and carrying out the functions of a biosphere reserve.*

7. *In addition, provisions should be made for:*

   (a) *mechanisms to manage human use and activities in the buffer zone or zones;*

   (b) *a management policy or plan for the area as a biosphere reserve;*

   (c) *a designated authority or mechanism to implement this policy or plan;*

   (d) *programmes for research, monitoring, education and training. "*

*URL:* [http://www.sovereignty.net/tline/statutory-framework.htm](http://www.sovereignty.net/tline/statutory-framework.htm)

### *Core Zone*

- habitat types: (untouched) natural habitats (e.g.. virgin forests, peat bogs, natural alpine ecosystems, natural freshwater ecosystems, …)

- main function: nature conservation (protection of natural ecosystems and their natural development)

- side functions: research, environmental education

- restrictions:

  - no land use or land management (agriculture, forestry, water management …)

  - prohibition of settlements, constructions and mining

  - recreation is possible but restricted

- status of protection: strictly protected by legal means

- amount of area (no minimum defined by Seville strategy)

  - Germany: min. 3% (of the whole BR)

  - Austria: min 5% (of the whole BR)

**2_1_1  Summary on zonation**

Based on these official papers, the different zones can be characterised in a schematic way:

### Buffer Zone

- habitat types: habitats of traditional land use [e.g. managed forests, (dry or wet) meadows]

- main function: buffer and network between the core zones protection of habitats/species by special management

- side functions : preservation of extensive (traditional ) land use social-cultural and ecological sustainable development

- restrictions:

  - limitation of extensive and sustainable land use

  - special management of threatened species or habitat types

- status of protection: no legal protection needed (restrictions can be based on private contracts or based on voluntarily agreements)

- amount of area: (no minimum defined by Seville strategy)

  - Germany: min. 10% (buffer zone + core zone min. 20%)[1]

### Transitions area

- habitat types : no restrictions

- main function: social-cultural and ecological sustainable development

- side functions : recreation, education

- restrictions: no restrictions

- status of protection: no legal protection needed

---

[1] According to the German criteria for biosphere reserves the sum of core zone and buffer zone has to be more than 20% of the whole biosphere reserve. If the core zone covers only 5%, the buffer zone has to cover at least 15% to fulfil this criteria.

- amount of area: all areas that do not belong to the core area or buffer zone

### 2_2 Stakeholder analysis

Within Goal II "utilize BRs as models of land management and of approaches to sustainable development" the Seville strategy states several objectives, which directly deal with participation of stakeholders:

- OBJECTIVE II.1: Secure the support and involvement of local people

  - 5. Survey the interests of the various stakeholders and fully involve them in planning and decision-making regarding the management and use of the reserve.

- OBJECTIVE II.2: Ensure better harmonization and interaction among the different biosphere reserve zones

  - 4. Establish a local consultative framework in which the reserve's economic and social stakeholders are represented, including the full range of interests (e.g. agriculture, forestry, hunting and extracting, water and energy supply, fisheries, tourism, recreation, research).

  - 2. Develop means of identifying incompatibilities between the conservation and sustainable-use functions of biosphere reserves, and take measures to ensure that an appropriate balance between the functions is maintained.

Within the first internal workshop in February 2010 the project group tried to draw an overview on the relevant stakeholders and to analyse their relationship to the LMBR. For this purpose, the stakeholder groups have been collected and have been placed on a two dimensional graph (Graph 6).

The position according to x-axis (left to right) gives relative value for the strength of the influence that a stakeholder group can have on the development of the LMBR. The stronger the influence, the more to the right the stakeholder group is placed on the diagram.

The y-axis is representing the attitude of the stakeholder group towards the LMBR. For this the general (mean) approach as a sum of different

relationships and individual persons within a group is ranked. The higher the position on the diagram, the more positive is the attitude of the stakeholder group. On the opposite, negative attitude is low than the middle of the diagram.

As it is shown in Graph 6, most of the stakeholder groups have a positive or neutral relationship to LMBR. This shows that good cooperation with relevant stakeholder has been established and no major conflicts are obvious at the moment.

The positive position of the land user groups of fisher man, wine producers and Forests of the Czech Republic, S.E. indicates a very good starting position for the re-zonation process.
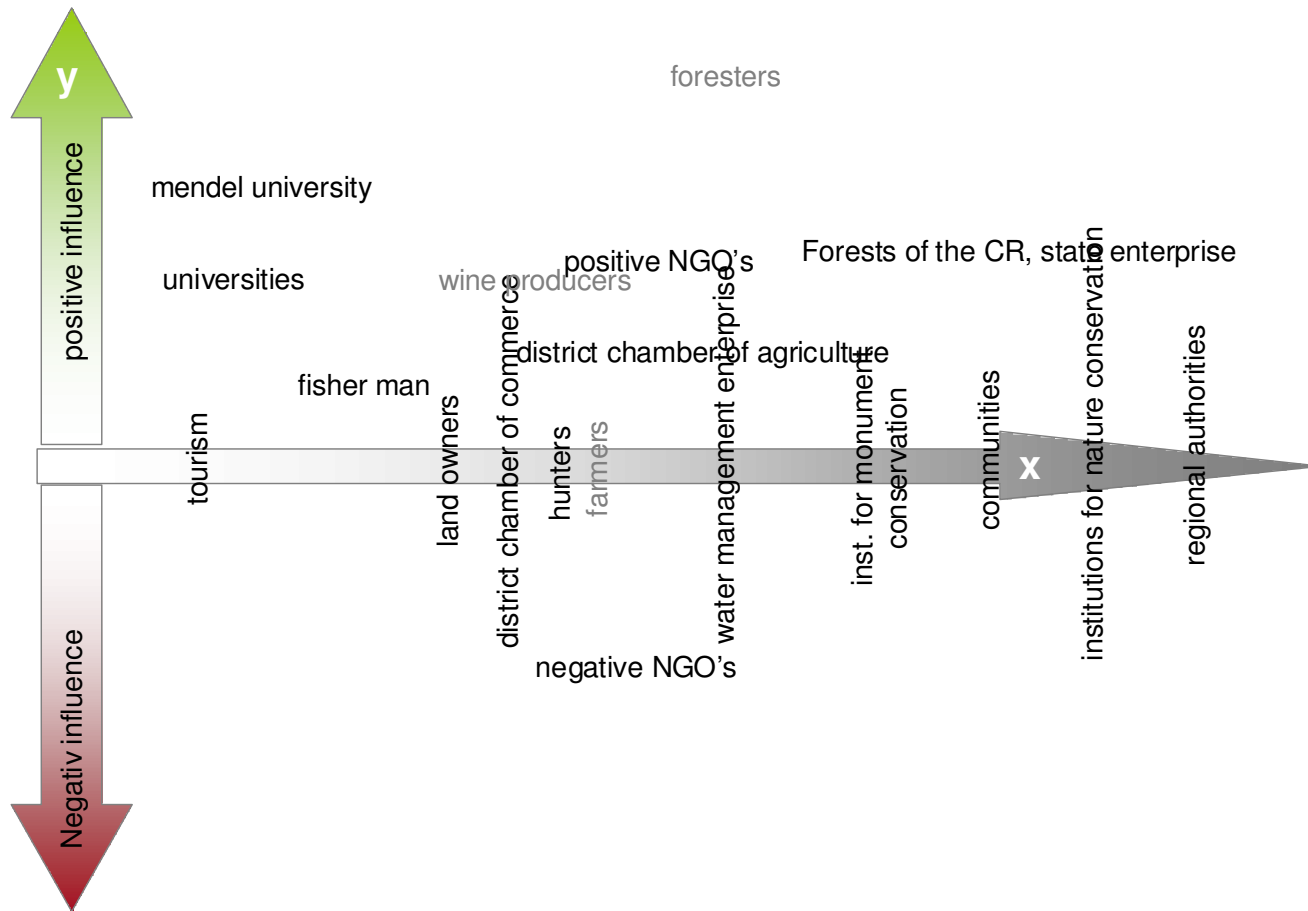
*Graph 6: Schematic diagram of stakeholders and their orientation to the biosphere reserve (positive or negative) and the strength of their influence*

## 2_3   *Problem tree*

In April 2010 the second workshop of the BR Wienerwald took place, wherein the project group tried to provide an "outside perspective" on LMBR.

After an introduction to the zonation and management in BR Wienerwald, a problem tree was worked out.

In a brain storm phase the participants were requested to gather all problems of the LMBR which are directly or indirectly related with zonation.

In a second step, the causes and effects have been separated and linked together (see Graph 7).

| CAUSE | EFFECTS |
|---|---|
| No validity of BR and their zoning in the CZ | No legal basis (and no budget) for compensation |
| | No legal basis for including Zonation into landscape planning |
| voluntary core zones that do not want legal status | It's not clear at the moment, if this core zones will be accepted by UNESCO |
| No understanding of modern BR Zonation functions in CZ MAB committee | Insufficient support from the MAB committee on all levels |
| | Focusing only on nature conservation damage the image of BR concept |
| unreliable approach of nature conservation agency | BR reputation is effected in negative way because public can not distinguish between BR and Nature conservation authorities |
| insufficient spatial accurate data | Might become a problem when Zonation becomes legal status |
| | No one pays attention to the Zonation |
| No cooperation with stakeholders during Zonation process | Conflict with conservation of historic monuments in core zone |
| | Conflict forest management and conservation in core zone |
| | Conflict between fisherman interests and nature conservation |
| Current Zonation does ignores need of traditional land use | Invasive species spread from Core zone without management |
| | Flood control need management (not possible in core zone) |
| | Palava ecosystems change due no management to succession stage with low Biodiversity |

*Graph 7: Problem tree*

## 2_4  *Logical framework*

After analysing the problem tree those attendees who have participated in the Workshop in April 2010 worked out a log frame based on the logical framework approach. Goals, purpose and outputs as well as indicators, their means of verification and assumptions have been listed in a tabular form and have been proved against each other on their consistence.

| Activity Description | Indicators | Means of Verification | Assumptions |
|---|---|---|---|
| **Overall Goal: Proper function of the BR** | | | |
| **Purpose or Outcome: New Zonation fulfilling the Seville strategy (process as model for other BR)** | Full functional zoning according to the UNESCO MAB guidelines | Approval by the MAB-Committee in Paris | |
| Component Objectives or Intermediate Results: | | | |
| 1. Clear the objectives and the legal framework on national and international level (UNESCO) | Written documents with definition of the legal framework | Evaluation of the result by project steering committee | The national committee is willing to discuss and cooperate |
| 2. Successful participation of local stakeholders | All relevant stakeholders integrated into the development process | Lists of participants of workshops, memorandums and agreements with stakeholders | Stakeholder are willing to cooperate and take part in meetings and workshops |
| 3. Technical implementation of the zonation | Map in scale of 1:10.000 with delineation of zones | Evaluation of the result by project steering committee | Data on land use and natural heritage as well as administrative data is available |
| Outputs: | | | |
| 1. Clear the objectives and the legal framework on national and international level (UNESCO) | | | |
| 1.1.  Memorandum of understanding as a result of cooperation with other nations on level of MAB Committees | Written memorandum signed by national committees of CZ and at least on other country | Evaluation of the result by project steering committee | National committees of CZ and other countries can be motivated to take part in the meetings |
| 1.2.  Good cooperation with the nature conservation authorities | Three workshops to inform the nature conservation authorities about the BR-concept and philosophy | Evaluation of the result by project steering committee | Nature conservation authorities are willing and interested in cooperation |
| 1.3.  Guideline for the legal status of (core) zones with informal consultation of UNESCO-expert | Written agreement of the needed legal status of the zonation for LMBR | Evaluation of the result by project steering committee | UNESCO is willing to give informal advice |

| | | | |
|---|---|---|---|
| 1.4. Proposal for the criteria for LMBR (might be used also for others) | Written list of criteria for LMBR as a basis for the whole zonation process. Definition of the minimum sizes of the zones, main restrictions and legal status. | Evaluation of the result by project steering committee | |
| **2. Participation process** | | | |
| 2.1. Info folder on modern BR-concept and public presentations to rise of public awareness of the BR objectives and philosophy | 3000 info folders (A4) and 5 meetings with lokal stakeholders | Evaluation of the result by project steering committee | |
| 2.2. Catalogue of appropriate land use forms and regulations for all zones approved by stakeholders (list of hints of best practices in transition zone; criteria-catalogue for different land use-forms in buffer zones; regulations and restrictions for core zones) | Printed and online published catalogue of appropriate land use or restrictions for all different zones | Evaluation of the result by project steering committee | |
| 2.3. List of sources of funding for compensation and other (non monetary) benefits for landowner donating areas to buffer/core zone | Printed and online published list of founding | Evaluation of the result by project steering committee | There will be sources of founding for a long term perspective |
| **3. Technical implementation of the zonation** | | | |
| 3.1. Metadata catalogue of partners and their data | Digital metadata catalogue with information on all relevant digital and analogue data with information on sources and quality as well as possible partners that can provide GIS and Database capacity. | Evaluation of the result by project steering committee | |
| 3.2. Suitability map for each zone (core, buffer, transition zone) | Three maps in the scale of 1:25.000 showing the suitability of landscapes for the three different types of zones | Evaluation of the result by project steering committee | GIS resources and data is available |
| 3.3. Map of each zone with written memorandum of understanding of the land owner | Delineation of zones approved by the landowner (1:10.000 or larger scale) and written memorandum of understanding with the land owner | Evaluation of the result by project steering committee | Stakeholders can be attracted to give land for core or buffer zone |

*Table 1. Log frame.*

# 3 WORKPLAN / ACTIVITIES

Based on the log frame a plan of activities has been worked out and discussed in the third workshop in June 2010 in LMBR. The activities are grouped in four modules:

- Module 1: Overall management
- Module 2: Legal framework
- Module 3: Participation process
- Module 4: Technical implementation

The needed resources and a plan of mile-stones are shown in Table 2 and in Table 3 (page 23 and 24).

## 3_1   Module 1: Overall management

A project manager has to take control over the whole implementation process. This is a very critical position and should be provided with the needed resources to ensure a successful implementation.

### 3_1_1   Activities

#### 3_1_1_1 Implementation of a project-steering committee

A project steering committee should be implemented to control the process in the form of supervision. The steering committee should not exceed more than 7 persons. It is recommended to have key players from science, nature conservation, regional development and administration within the steering committee. The steering committee should meet 3-4 times during the process duration and will support the project manager in his decisions.

#### 3_1_1_2 Coordination of work packages and partners

For each of the three modules a responsible coordinator should be designated. The project manager has to coordinate amongst them and has to provide an information platform. Thus every involved person has access to the relevant data and information. That way dates for common events are coordinated as well.

#### 3_1_1_3 Controlling of work process, decision making

The project manager has to ensure the quality and time schedule of all outputs of the three modules. He or she is responsible for final decisions. In difficult cases, the project manager should back up the decision with the steering committee.

#### 3_1_1_4 Financial administration

The financial administration includes accounting and contracting of work packages to external partners and experts. A payment schedule has to be worked out and the calls for tenders and the contract procedure have to be prepared. It is important to check this procedures also from the legal point of view.

#### 3_1_1_5 Regular information of national MAB-Committee

The project manager should inform the national MAB-Committee on a periodic time span (every 6 moth). The information should be provided by a short written activity report and on demand a personal presentation.

## 3_2   Module 2: Legal framework

### 3_2_1   Outputs

Clear the objectives and the legal framework on national and international level (UNESCO)
1.   Memorandum of understanding as a result of cooperation with other nations on level of MAB Committees
2.   Good cooperation with the nature conservation authorities

E.C.O.

3. Guideline for the legal status of (core) zones with informal consultation of UNESCO-expert
4. Proposal for the criteria for LMBR (might be used also for others)

### 3_2_2   Activities

#### 3_2_2_1 Literature and data search

As a first step a research on the actual national legal status of Protected Areas, the administrative units and relevant persons will be applied.

#### 3_2_2_2 Preparation of the scientific draft on BR functions and objectives

The existing national regulations will be compared with the actual UNESCO/MAB regulations on zonation of BRs. The outcome is a written report on the relevant national legal framework and an analysis how this might meet the needs of the MAB BRs based on Seville strategy.

Definitions within the UNESCO-regulations have to be broken down to the specific situation of the LMBR. The result will be a proposal for the criteria for LMBR (e.g. for the minimum amount of core and buffer zone[2]).

The target group of this paper is the national committee and nature conservation authorities.

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[2] One question already occurred in the prophase: leaving some habitat types without management as supposed in the core zone might lead to effects that are unwanted by nature conservation. For example the park structured floodplain forest with old oaks would turn into elm-ash forest and oak might disappear. This is an important factor for selecting adequate areas for core zones.

#### 3_2_2_3 Workshop with relevant players of nature conservation authorities

In a first workshop the results of the activities above (Seville strategy, purpose and regulations of zoning, legal framework) will be presented to the steering committee and members of the regional nature conservation authorities.

### 3_3   Module 3: Participation process

### 3_3_1   Outputs

1. Info-folder on modern BR-concept and public presentations to rise public awareness of the BR objectives and philosophy
2. Catalogue of appropriate land use forms and regulations for all zones approved by stakeholders (list of hints of best practices in transition zone; Criteria-catalogue for different land use-forms in buffer zones; regulations and restrictions for core zones)
3. List of sources of funding for compensation and other benefits for landowner donating areas to buffer/core zone

### 3_3_2   Activities

#### 3_3_2_1 Preparation of the info folder (leaflet)

The research' results concerning the national legal framework and the definitions and regulations of BRs by UNESCO should be summarised in a leaflet. The content and the language should be adapted to the local stakeholder groups. A survey on existing info-materials of other BRs can help to prepare a good quality of information.

### 3_3_2_2 1st local WS: What is a BR?

The info-materials should be presented to the regional stakeholders in the first workshop. The first workshop should manly provide information to the stakeholders and give them an idea of the modern BR concept and the opportunities for the region. It is very important to inform all involved persons on the objectives of the zonation project, the time schedule and how they will be involved.

Within the workshop the most important natural and cultural heritage should be presented. Make people aware of the (international) responsibility for their heritage.

### 3_3_2_3 Excursion with local stakeholders

Show the local stakeholders how BRs are implemented in other regions. Give them the possibility to discuss with stakeholders of other reserves. Reflect the situations of other reserves in a discussion during the excursion:

What can we learn from this biosphere reserve?

How can we adopt our process in LMBR to optimise the results?

### 3_3_2_4 Draft for the catalogue of appropriate land use forms and regulations for all zones

During the development of protected areas in many cases local stakeholders, especially landowners, are afraid that the designation of protected areas will lead to limitations in their land use. Often this may be the case although not all types of protection will lead immediately to limitations, but it might limit the opportunities of future land use, especially the options of intensification of land use or the change of the land use type (from forest to agriculture, from agriculture to settlements).

To avoid mistrust and suspicion, create a comprehensive catalogue of the appropriate land use forms and regulations for all zones in the BR. Be aware, that this catalogue is very important for the ongoing

discussion and should be based on the national legal framework and the definitions of the zoning by the UNESCO. Make sure that you know, what the limits and knock out-criteria and the "nice to have" criteria or visions are.

### 3_3_2_5 Catalogue for funding and compensation

As pointed out the designation of a protected area will lead to limitations of land use in a sustainable way. This might conflict with economical interests. The Catalogue for funding and compensations should cover possibilities of financial reimbursement by national and international (EU) founding programs. But beside of the financial compensations, also other means of compensation should be discussed (providing access to information or marketing to the land owner/user, give awards for ecological land use, honour voluntary activities and others). As the terms of funding might change in time, also the links to the actual websites of the funding organisations will be provided.

### 3_3_2_6 2nd Local Workshop: Natural & Cultural heritage: How to protect them?

The second local workshop focuses on measures that might be needed to protect the natural and cultural heritage for future generations. Present the different types of zones, the purpose of the zones and the draft of the limitations and regulations. Discuss this limitations show what are the knock-out criteria and what can be adopted and discussed. Point out the options of funding and of compensations. Make clear if the compensation is granted or not. What will happen if sources of founding will change or stop?

### 3_3_2_7 3rd Local Workshop: Discussion of draft map of zonation

Present and discuss the draft zonation map. The whole process should be described including which data have been used and how they were aggregated so that everybody can understand the origin of this draft. Show and discuss the memorandum of understanding that has to be declared by the landowner. Point out the next steps of the process and

tell the landowners that the project team will contact each of them to fix the delineation of the zones and that afterwards a memorandum of understanding should be signed.

### 3_3_2_8 Local event: Presenting the new zonation

After the delineation process and the signing of memorandums has been finalised a big event should be celebrated of which everybody in the region is aware of. Point out what objectives have been reached (and which have not been reached) and what shall happen in the future. If possible invite national and international guests to point out the importance of the LMBR to local stakeholders and to encourage them in their process.

### 3_3_2_9 Various information activities

Beside the three local workshops information on the ongoing project will be provided in several local or regional meetings. The presentation of the project within the monthly meetings of the microregions is an effective way to disseminate information to majors and communities.

### 3_4 Module 4: Technical implementation

### 3_4_1 Outputs

1. Metadata catalogue of partners and their data
2. Suitability map for each zone (core, buffer, transition zone)
3. Map of each zone with written memorandum of understanding of the land owners

### 3_4_2 Activities

### 3_4_2_1 Research on (GIS-) Data

The module starts with the research on descriptive and GIS data which

are based on the existing data catalogue. The metadata catalogue will be extended and updated. Data on administrative and topographic boarders, natural and cultural assets, land use and infrastructure and information on economic and social development have to be gathered. The metadata catalogue should provide information at least on the source, date, scale and contact data.

### 3_4_2_2 Development of a GIS-System

A GIS-System should be build up by integrating all available data on natural & cultural heritage, land use, land ownership and existing protected areas into one projection system. This makes it possible to combine, intersect and analyse different layers of information.

### 3_4_2_3 Analysis of suitability for Core,- Buffer- and Transition Zone

The actual state of the natural and cultural heritage, the actual state of protection and the actual land use should be analysed and be proved on how suitable each land unit is for core-, buffer- or transition zone.

As the transition zone has no obligations by the UNESCO regulations, all areas that do not fit into core or buffer zone can be designated for the transition zone.

The assessment of the suitability can be done by a methodological approach used within the planning process of core zones in the BR Wienerwald. Different input layers have been classified in their suitability for the core zone by assigning a value from 0 (not suitable) to 1 (very suitable).

The different input layers have been aggregated step by step. During the aggregation each layer has been assigned a specific weighting factor because the layers are of varying importance for the calculation of the overall suitability value.
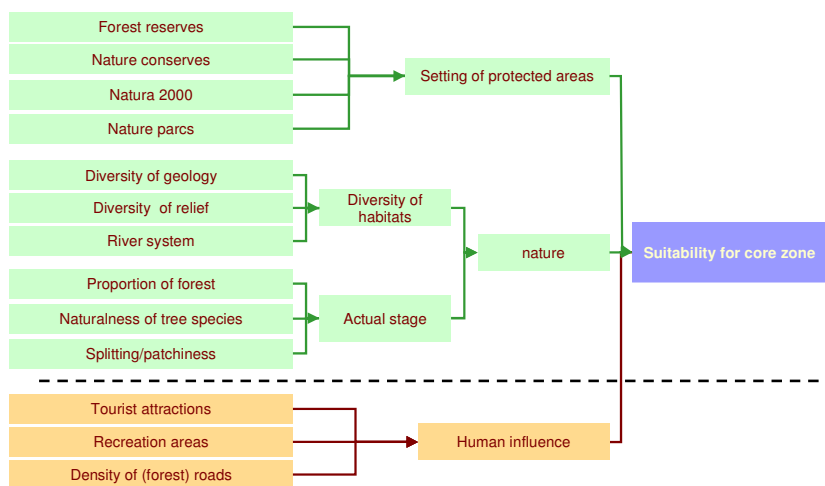
Graph 8: Aggregation of different layers for the suitability of core zones (Biosphere Reserve Wienerwald)

The intermediate levels of aggregation can be drawn as maps as well and can help to understand the process of aggregation.
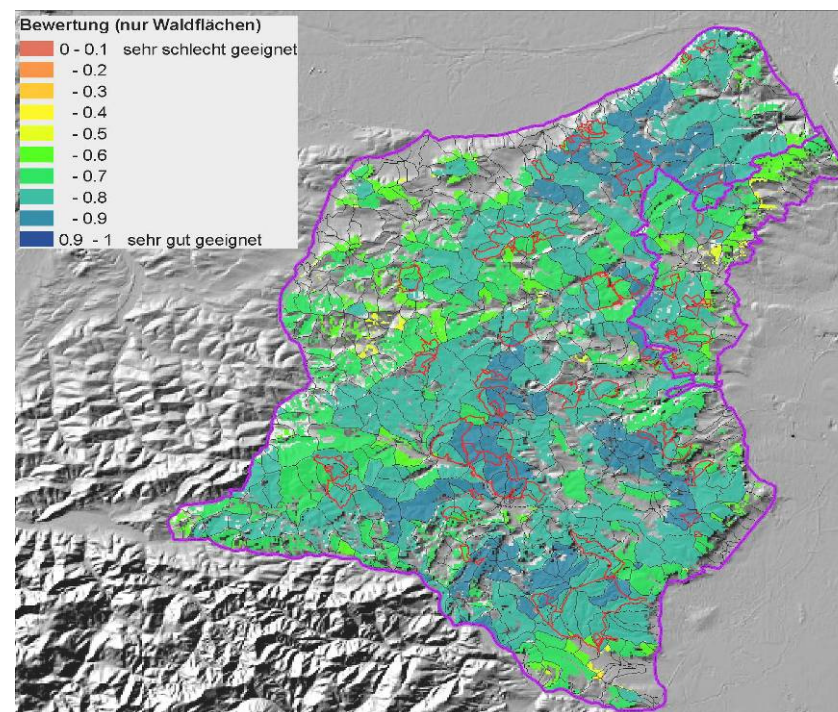


Graph 9: Suitability map for core zones biosphere reserve Wienerwald.

### 3_4_2_4 Workshop steering group and landscape planners

The methodological approach and the first results of the analysis should be presented to the steering committee for internal discussion.

Make use of the steering committee and external experts to check the weighting of the different layers. This might be done by a Delfi-approach. Within this workshop also experts from the landscape planning authorities should be included into the discussion process.

### 3_4_2_5 Generation of draft map of zonation

If needed adopt the methodology and calculate the final draft map of

zonation. This final draft map of zonation should be discussed and proved internally within the project team and the steering committee before published. This map is the base for discussion with the stakeholders and land owners. Once it has been published it is hard to revoke this information.

Present the map within the third local workshop in module 3.

### 3_4_2_6 Delineation of core- and buffer zones in the field

Agree on the boarders with each land owner in the core and buffer zone. This process should be done in the field based on a map proportional 1:5.000 and by the presentation of orthophotos, parcel-networks and the boarders of the zones following the draft zonation map.

### 3_4_2_7 Signing of memorandum of understanding with all landowners

Based on the individual plots of land a memorandum for each landowner will be prepared recording the particular plot of land, the amount of the core- and buffer zones and the agreed regulations and limitations. These memorandums have to be signed by the land owners to assure their agreement on the zonation of their land.

### 3_4_2_8 Generation of map of zonation

Based on the signed memorandums a final map of zonation can be generated and distributed to the regional and national authorities. If needed the national protected area system can be adopted to this new zonation.

### 3_4_2_9 UNESCO proposal for adoption of zonation

Based on the outcomes of the process a proposal on adaption of the BR can be brought to the national MAB-committee and the UNSECO MAB office in Paris.

*Table 2: Estimated resources*
*Based of the activity description, the needed resources have been estimated. The estimation of costs are based on the costs of an internal workday (provided by the LMBR-management team) of 150,- Euro and costs of an external workday (provided by an other company) or 350,- Euro*

| Module/activity | | workdays total | workdays internal | workdays external | work cost internal | work cost external | other costs | total costs |
|---|---|---|---|---|---|---|---|---|
| Module 1: Overall management | | 70 | 70 | 0 | € 10.500 | € 0 | € 2.500 | **€ 13.000** |
| A-1-1 | Implementation of a project-steering committee | 4 | 4 | 0 | € 600 | € 0 | € 500 | **€ 1.100** |
| A-1-2 | Coordination of work packages and partners | 20 | 20 | 0 | € 3.000 | € 0 | € 1.000 | **€ 4.000** |
| A-1-3 | Controlling of work process, decision making | 20 | 20 | 0 | € 3.000 | € 0 | € 1.000 | **€ 4.000** |
| A-1-4 | Financial administration | 20 | 20 | 0 | € 3.000 | € 0 | | **€ 3.000** |
| A-1-5 | Regular information of MAB-Committee | 6 | 6 | 0 | € 900 | € 0 | | **€ 900** |
| Module 2: Legal framework | | 19 | 19 | 0 | € 2.850 | € 0 | € 0 | **€ 2.850** |
| A-2-1 | Literature and data search | 10 | 10 | 0 | € 1.500 | € 0 | | **€ 1.500** |
| A-2-2 | Preparation of the scientific draft on BR | 5 | 5 | 0 | € 750 | € 0 | | **€ 750** |
| | Workshop with nature conservation authorities | 4 | 4 | 0 | € 600 | € 0 | | **€ 600** |
| Module 3: Participation process | | 71 | 63 | 8 | € 9.450 | € 2.800 | € 12.500 | **€ 24.750** |
| A-3-1 | Preparation of the info folder | 10 | 10 | 0 | € 1.500 | € 0 | € 3.000 | **€ 4.500** |
| A-3-2 | 1st local WS: What is a BR? | 4 | 4 | 0 | € 600 | € 0 | € 500 | **€ 1.100** |
| A-3-3 | Excursion with local stakeholders | 6 | 6 | 0 | € 900 | € 0 | € 3.000 | **€ 3.900** |
| A-3-4 | Draft for the catalogue of appropriate land use forms | 10 | 10 | 0 | € 1.500 | € 0 | | **€ 1.500** |
| A-3-5 | Catalogue for funding and compensation | 5 | 5 | 0 | € 750 | € 0 | | **€ 750** |
| A-3-6 | 2nd Local Workshop: How to protect heritage? | 4 | 4 | 0 | € 600 | € 0 | € 500 | **€ 1.100** |
| A-3-7 | 3rd Local Workshop: Draft map of zonation | 4 | 4 | 0 | € 600 | € 0 | € 500 | **€ 1.100** |
| A-3-8 | Local event: Presenting the new zonation | 8 | 0 | 8 | € 0 | € 2.800 | € 5.000 | **€ 7.800** |
| A-3-9 | Information activities | 20 | 20 | 0 | € 3.000 | € 0 | | **€ 3.000** |
| Module 4: Technical implementation | | 180 | 125 | 55 | € 18.750 | € 19.250 | € 500 | **€ 38.500** |
| A-4-1 | Research on (GIS-) Data | 6 | 6 | 0 | € 900 | € 0 | | **€ 900** |
| A-4-2 | Development of a GIS-System | 20 | 0 | 20 | € 0 | € 7.000 | | **€ 7.000** |
| A-4-3 | Analysis of suitability for core and buffer zone | 30 | 0 | 30 | € 0 | € 10.500 | | **€ 10.500** |
| A-4-4 | Workshop steering group and landscape planners | 4 | 4 | 0 | € 600 | € 0 | € 500 | **€ 1.100** |
| A-4-5 | Generation of draft map of zonation | 0 | 0 | 0 | € 0 | € 0 | | **€ 0** |
| A-4-6 | Delineation of core- and buffer zones in the field | 80 | 80 | 0 | € 12.000 | € 0 | | **€ 12.000** |
| A-4-7 | Workshops to sign memorandum of understanding | 10 | 10 | 0 | € 1.500 | € 0 | | **€ 1.500** |
| A-4-8 | Generation of map of zonation | 10 | 5 | 5 | € 750 | € 1.750 | | **€ 2.500** |
| A-4-9 | UNESCO proposal for adoption of zonation | 20 | 20 | 0 | € 3.000 | € 0 | | **€ 3.000** |
| | **Total** | **340** | **277** | **63** | **€ 41.550** | **€ 22.050** | **€ 15.500** | **€ 79.100** |

*Table 3: Proposed time schedule (milestones in dark red)*

| Code | Module / activity month: | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Module 1: Overall management** | | | | | | | | | | | | | | | | | | | |
| A-1-1 | Implementation of a project-steering committee | ▓ | ▓ | | | | | | | | | | | | | | | | |
| A-1-2 | Coordination of work packages and partners | | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ |
| A-1-3 | Controlling of work process, decision making | | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ |
| A-1-4 | Financial administration | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ |
| A-1-5 | Regular information of MAB-Committee | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ |
| **Module 2: Legal framework** | | | | | | | | | | | | | | | | | | | |
| A-2-1 | Literature and data search | | ▓ | | | | | | | | | | | | | | | | |
| A-2-2 | Preparation of the scientific draft on BR | | | ▓ | | | | | | | | | | | | | | | |
| A-2-3 | Workshop with nature conservation authorities | | | | ■ | | | | | | | | | | | | | | |
| **Module 3: Participation process** | | | | | | | | | | | | | | | | | | | |
| A-3-1 | Preparation of the info folder | | | ▓ | | | | | | | | | | | | | | | |
| A-3-2 | 1st local WS: What is a BR? | | | | ■ | | | | | | | | | | | | | | |
| A-3-3 | Excursion with local stakeholders | | | | | ▓ | | | | | | | | | | | | | |
| A-3-4 | Draft for the catalogue of appropriate land use forms | | | | ▓ | ▓ | | | | | | | | | | | | | |
| A-3-5 | Catalogue for funding and compensation | | | | ▓ | ▓ | | | | | | | | | | | | | |
| A-3-6 | 2nd Local Workshop: How to protect heritage? | | | | | | | ■ | | | | | | | | | | | |
| A-3-7 | 3rd Local Workshop: Draft map of zonation | | | | | | | | ■ | | | | | | | | | | |
| A-3-8 | Local event: Presenting the new zonation | | | | | | | | | | | | | | | | | ■ | |
| A-3-9 | Information activities | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ | ▓ |
| **Module 4: Technical implementation** | | | | | | | | | | | | | | | | | | | |
| A-4-1 | Research on (GIS-) Data | | ▓ | ▓ | | | | | | | | | | | | | | | |
| A-4-2 | Development of a GIS-System | | | ▓ | ▓ | | | | | | | | | | | | | | |
| A-4-3 | Analysis of suitability for core and buffer zone | | | | | ▓ | ▓ | | | | | | | | | | | | |
| A-4-4 | Workshop steering group and landscape planners | | | | | | | ■ | | | | | | | | | | | |
| A-4-5 | Generation of draft map of zonation | | | | | | | | | ▓ | | | | | | | | | |
| A-4-6 | Delineation of core- and buffer zones in the field | | | | | | | | | | | ▓ | ▓ | ▓ | ▓ | | | | |
| A-4-7 | Workshops to sign memorandum of understanding | | | | | | | | | | | | | | ▓ | ▓ | | | |
| A-4-8 | Generation of map of zonation | | | | | | | | | | | | | | | | ■ | | |
| A-4-9 | UNESCO proposal for adoption of zonation | | | | | | | | | | | | | | | | ▓ | ▓ | ▓ |

### 3_5  *Metadata catalogue*

The LMBR project team gathered a list of available data which are relevant for the zonation process. A metadata catalogue was prepared to give an overview on available data and sources.

| Name of data source | Scale of spatial base data | description | covered area | source (institution, person, that is responsible for data distribution) |
|---|---|---|---|---|
| **BR Dolni Morava Zonation map** | 1:150 000 .tiff | | | |
| **Development plan of the greater area of Breclav county** | 1:50 000 1:100 000 | Prognosis of the area development from various aspects | 100% of BRDM - the whole Breclav county | Petr Čupa |
| **The Pálava Protected Landscape Area - the borders** | .shp file | Territorial delimitation of the largest protected area within the BR | The Pálava Protected Landscape Area - 83 km2 | Ing. Koukal The Agency for Nature Conservation and Landscape Protection of the Czech Republic stanislav.koukal@nature.cz |
| **The Pálava Protected Landscape Area - the zonation** | .shp file | Zonation of the largest protected area within the BR - the zonation is legally binding | The Pálava Protected Landscape Area - 83 km2 | Ing. Koukal The Agency for Nature Conservation and Landscape Protection of the Czech Republic stanislav.koukal@nature.cz |
| **Small-size Specially Protected Areas within BR incl. their buffer zones** | | National nature reserves (NNR) National nature monuments (NNM) Nature reserves (NR) Nature monuments (NM) | | Ing. Koukal The Agency for Nature Conservation and Landscape Protection of the Czech Republic stanislav.koukal@nature.cz |
| **Special Protection Areas of Natura 2000** | | Special protection areas that are designated according to the Directive on the Conservation of Wild Birds 79/409 EEC (Birds Directive). | | www.drusop.nature.cz, http://www.nature.cz/natura2000-design3/sub-text.php?id=1804 |
| **Special Areas of** | | Special Areas of Conservation  designated | | www.drusop.nature.cz, |

| | | | | |
|---|---|---|---|---|
| **Conservation of Natura 2000** | | according to the Directive on the Conservation of Natural Habitats and of Wild Fauna and Flora 92/43/EEC (Habitats Directive). | | http://www.nature.cz/natura2000-design3/sub-text.php?id=1805 |
| **Ramsar sites** | | | | Ing. Koukal<br><br>The Agency for Nature Conservation and Landscape Protection of the Czech Republic<br><br>stanislav.koukal@nature.cz |
| **BR borders** | | | | Ing. Koukal<br><br>The Agency for Nature Conservation and Landscape Protection of the Czech Republic<br><br>stanislav.koukal@nature.cz |
| **BR Land-use map** | 1:125 000 | Land use map with text summary of the whole BR | | Petr Čupa |
| **BR Geological map** | .shp | | | Petr Čupa |
| **Forest management plans** | | Forest age and type structure - legally binding forest management material (the management plan 2010-2020 was not validated yet) | | Jiří Stonawski<br><br>Forests of the Czech Republic,s.e.<br><br>stonawski@lesycr.cz |
| **Lednice-Valtice Cultural Landscape - WHS Management plan** | | | | Eva Horsakova<br><br>WH Site-manager<br><br>eva.horsakova@dolnimorava.org |
| **Proposal of the Soutok Protected Landscape Area** | | Draft material for declaration of new Protected Landscape Area | ? current validity ? | Petr Čupa |

# 4 RELEVANT LITERATURE

List of literature relevant to the project (for consecutive submission: list of publications published from results obtained in the previous project year(s)).

#not finished

JUNGMEIER, M., KIRCHMEIR, H., KÜHMAIER, M., VELIK, I. & WAGNER, J. 2005: The IPAM-Toolbox: An Expert System for Integrative Planning and Managing of Protected Areas. Conference Volume 3rd Symposon of the Hohe Tauern National Park for Research in Protected Areas, 15.-16-17. September, Sekretariat des Nationalparkrates Hohe Tauern, Matrei i. O., 83-89

KIRCHMEIR, H. ZOLLNER, D. & JUNGMEIER, M., 2008: Capacity Building for Protected Area Staff & Communication and awareness raising related activities in the Carpathian and East Carpathian Biosphere Reserves. Project report of the first phase (Jan. – June 2008). Contracted by: World Wide Fund for Nature International – Danube-Carpathian Programme, Implemented by: E.C.O. Institut on Ecology, Klagenfurt, 71 S

KIRCHMEIR, H., JUNGMEIER, M., KÜHMAIER, M. & PICHLER-KOBAN, C. 2005: Detailplanung zum Biosphärenpark Wienerwald. Bereich Wald. Studie im Auftrag von: Biosphärenpark Wienerwald Management, Bearbeitung: E.C.O. Institut für Ökologie, Klagenfurt, 116S

UNESCO (Hrsg.) 1996: Man and the Biosphere Programme. Biosphere Reserves. The Seville Strategy & the statutory framework of the World Network. , UNESCO- United Nation Educational, Scientific and Cultural Organization, Paris, 19S

UNESCO (Hrsg.) 2008: Madrid Action Plan for Biosphere Reserves (2008–2013) UNESCO- United Nation Educational, Scientific and Cultural Organization, Paris, 19S

ZOLLNER, D., KIRCHMEIR, H. LOISKANDL, G., & JUNGMEIER, M., 2005: Leitfaden für Forschung und Monitoring im Biosphärenpark Wienerwald. Studie im Auftrag von: Österreichisches MaB-Nationalkomitee an der Österreichischen Akademie der Wissenschaften. Bearbeitung: E.C.O. Institut für Ökologie, Klagenfurt, 50 S.

ZOLLNER, D. & JUNGMEIER, M. 2005: Evaluierung der Forschung in österreichischen Biosphärenparks. In: LANGE, S.: Leben in Vielfalt. UNESCO-Biosphärenreservate als Modellregionen für ein Miteinander von Mensch und Natur. Verlag der Österreichische Akademie der Wissenschaften, Wien, 33-36

# 5   EXAMPLES OF REGULATIONS AND LIMITATIONS IN BIOSPHERE RESERVES

The UNESCO-Biosphere reserve approach is very flexible and the statutory framework of the World Network of biosphere reserves gives only a rough frame, how regulations and limitations in the different zones of a biosphere have to look like. To give an idea, how this statutory framework was implemented, two examples will be illustrated.

The first example will show the situation of the biosphere reserve Wienerwald and the second example is from a workshop in the East Carpathian Biosphere Reserve (Ukrainian part, Ushansky national nature park).

## 5_1   Regulations and Limitations in the Biosphere Reserve Wienerwald

The planning process of the Biosphere Reserve Wienerwald WBP was started in 2003 and the biosphere reserve was accepted by the UNESCO 2005.

So it is a "new generation" biosphere reserve, as the whole planning process started after the delivery of the Seville strategy 1995. This gave the opportunity to do the zonation process according to the new criteria of the statutory framework.

As the WBP covers two provinces of the Austrian federal state, the implementation of regulations into existing law differs significantly between the province of Lower Austria (90,6% of the WBP area) and the province of Vienna (9,4% of the WBP Area).

As the province of Lower Austria covers the larger part of the biosphere reserve, all examples of legal regulations will refer to this province, if not stated differently in the text.

It is important to mention, that the whole system of regulations and limitations is not static, but adoptable. It could be the case that actual implementations differ from the original concept. This is possible as long the criteria of the statutory framework of the UNESCO are fulfilled.

| | Area [ha] | % of the total area |
|---|---|---|
| *Total surface area Biosphere Reserve Wienerwald* | *105,545* | *100.00%* |
| *Core area total* | *5,576* | *5.28%* |
| *Buffer zone total* | *20,102* | *19.05%* |
| *Buffer zone forest* | *4,912* | *4.65%* |
| *Buffer zone open-land cultivated area* | *15,191* | *14.39%* |
| *Outer transition area* | *79,866* | *75.67%* |

Table 4: amount of different zones in the biosphere reserve Wienerwald according to the application form 2005.

### 5_1_1   Definition of the zones

According to the statutory framework, the area of the WBP is separated into three zones. Core and buffer zone can be divided into sub-zones as shown below. The names of the zones have been translated to German language with a slightly different meaning. So we list the German expressions and their meaning as well.

- Core zone (Kernzone /Core zone)
    - Areas without management (main part)
    - Areas with management (small areas)
        - Management areas of anthropogenic spruce stands
        - Safety area along paths and roads

- Special areas for hunting and game management
- Buffer zone (Pflegezone / Management zone)
  - Buffer zone within forest areas
  - Buffer zone between Core zones and settlements or other infrastructures
  - Buffer zone between Core zones and managed forests
  - Forests of high conservation value which need human management to persist
  - Buffer zone outside of the forests
  - Areas of high conservation value (dry or wet meadows or pastures, extensively managed vine yards, Landscapes with high structure)
  - Corridors along the river system
- Transition zone (Entwicklungszone / Development zone)
  - (no special sub-zone up to now)

To give a more detailed overview, this different types of zones will be described in the following chapters:

### 5_1_2  Core zone

The Seville strategy gives the following definition of the core zone:

*"one or more **core areas,** which are securely protected sites for conserving biological diversity, monitoring minimally disturbed ecosystems, and undertaking non-destructive research and other low-impact uses (such as education);"*

In the criteria of article 4 (block 5 lit. a) it is stated, that it has to be *"a **legally constituted** core area or areas devoted to long-term protection, according to the conservation objectives of the biosphere reserve, and of sufficient size to meet these objectives;"*

The long term protection and the undistured development of the ecosystem without human management is the main objective in this zone. Harvesting and forest management is stopped and the economic loss of income will be compensated to the land owner.

According to the statutory framework, a legal constitution is needed for the core zones. This was done by two steps: First contracts between land owners and the governments of the provinces of Lower Austria and Vienna have been set up, dealing with the limitations and the compensations paid by these governments. After signing the contracts, the core areas have been designated by the law of nature conservation as nature reserves (Lower Austria) or landscapes of special protection (Vienna). Through this designation of protected areas by local legislations, several regulations and limitations of these laws became applicable to the core zones.

This covers the following items:

- All negative impacts on plants, animals, soils or rock-structures are forbidden. This includes:
  - No harvesting of timber or collecting of plants of animals (with the exception of hunting according to the law of hunting)
  - No construction of buildings, settlements, roads or other infrastructure
  - No projects that may have negative impact to soil or landscape
- Access of visitors is limited to marked pathways and roads
- Research activities are possible, but need a special permission from the nature conservation authority.

### 5_1_2_1 Core zone areas without management

In this areas no human intervention or management is planned.

### 5_1_2_2 Core zone areas with management

**Anthropogenic spruce stands**

**Objective**: To reduce the amount of spruce within the tree species composition and to enable a natural development of deciduous tree species. The explicit measures are part of the management plan for core zones.

**Location:** The location of this management areas have to be mapped and described within the management plan. These areas are limited to artificial forest stands where spruce is dominating and negative effects on neighbouring stands outside the core zone are expected (e.g. by bark beetle).

**Safety areas along roads and pathways**

**Objective:** To ensure the safety of visitors, hikers, bikers, riders along existing roads and pathways the landowner is in charge to remove dangerous trees or branches. For this purpose management activities within the safety areas are possible.

**Location:** The safety area covers both sides of a road or pathway within a distance of approximately the length of a tree (30m). If needed because of safety reasons, the distance can be enlarged.

**Management:** Branches, part of trees or whole trees that are a visible thread to the safety of visitors have to be cut. The wood and timber of these cuttings have to remain within the forest at the location of their origin. This management activity has to be limited to the minimal possible impact.

**Special areas for hunting and game management**

**Objective:** As natural predators of game are absent in the Wienerwald, game management is still needed within core zone to avoid concentration of game within core zones. For the game management some open areas are needed to enable effective hunting.

**Location:** As these areas will vary from time to time in location they have not been excluded from core zones. The number of this sites and the management will be mapped and regulated within the management plan.

**Management:** The management of hunting infrastructure will not be regulated by the law. In a bottom up approach a dialogue with the land owners and hunters has been started. The aim is to increase acceptance of biosphere reserve adopted game management by the hunters. This will include adopted hunting methods and to move the needed infrastructure outside the core zone in a long term perspective.

### 5_1_3 Buffer zone / Management zone

The Seville Strategy describes this zone as: „*a clearly identified* **buffer zone**, *which usually surrounds or adjoins the core areas, and is used for co-operative activities compatible with sound ecological practices, including environmental education, recreation, ecotourism, and applied and basic research;* "

In the WBP this zone is not restricted to the buffer function between core zones and transition zone, but covers habitats of high conservation value which need human management to persist in a favourable state.

There are no limitations on land use enforced by law on the buffer zones, although the actual type of land use as defined in the spatial plan might not be altered. This means, that agricultural land might not be altered to settlements or industrial zone.

Adopted management of these areas should be agreed on free will by land owners and land users. Quality of management and compensations might be fixed by private contracts.

With exception of the densely settled areas of Vienna, the WBP was already designated as a landscape protected area before the designation of the BR.

### 5_1_3_1 Buffer zone between Core zones and settlements or other infrastructures

**Objective:** These buffer areas should help to minimize conflicts between settlements or road infrastructure and nature conservation objectives within core zones.

**Location:** Between settlements and core zones a buffer area of 60m width has been designated. Along the main roads the buffer zone was adopted to the local need of safety management (e.g. according to the inclination of slopes)

**Management:** The buffer zone between settlement and core zones enables residents to use the adjacent forest for recreation purpose and to implement security measures in this area. The security measures include forest management (e.g. logging mature trees, removing dangerous trees). A negative impact from these measures on the core zone has to be avoided.

### 5_1_3_2 Buffer zone between Core zones and managed forests

**Objective:** These areas should help to avoid negative impact from surrounding managed forest to the core zone.

**Location:** Between the outer boarder of the core zone and managed forests a buffer zone of 30 m has been designated.

**Management:** Within this area, the management is limited to management methods which limit the negative impact on the neighbouring core zone. For example, no clear cuts may be done within this area, to avoid damage of sun on trees or negative effects on the natural forest microclimate in the core zone and to reduce the risk of wind throw at the edge of the clear cut.

### 5_1_3_3 Managed forests of high conservation value

**Objective:** There are several forest ecosystems with high nature conservation value that do not fit into a core zone because they need permanent human management.

**Location:** In most cases these are forests of high recreational value and with a high density of hiking trails. Because of the safety regulations a lot of safety areas would have to be designated and a restriction of visitors to the trails would lead to permanent conflicts.

Additionally stands with old oaks in the "Lainzer Tiergarten" have been included into this type of buffer zone. Without human management, oak would be replaced by horn beam or beech throughout natural succession. Because of the high conservation value of oak, this succession is unwanted by the nature conservation authority and the forest administration of Vienna.

The following areas have been designated for this type of buffer zone:

- Peilstein (climbing area)
- Hagenbachklamm (tourism hot spot)
- Hermannskogel (tourism hot spot)
- Himmelswiese (tourism hot spot)
- Eichkogel (Mödling) (tourism hot spot, mosaic with dry meadows)
- Lainzer Tiergarten ((tourism hot spot, oak tree management)

### 5_1_3_4 Areas of high conservation value outside of forests

**Objective:** Beside of the forest ecosystems, there are several habitat types outside the forest that include highly endangered species and are very important hot spots of biodiversity in the Wienerwald region.

**Location**: This habitat types include:

- Dry or wet meadows and pastures
- Mires and bogs
- Extensively managed vine yards
- Structured landscapes (with hedges, orchards, solitary trees)
- Habitats of endangered species ( e.g. meadows with Crex crex)

**Management:** There is no new regulation or limitation to these areas by the designation of the biosphere reserve (in many cases there are existing regulations). The only acceptance to this is that these buffer

zones have been integrated to the spatial planning directive. This leads to the fact, that within these areas a change of land use type (e.g. from agriculture to settlements) is very unlikely. On the other hand, some subsidies and compensations measures are only available in protected landscapes (like these buffer zones).

### 5_1_3_5 Corridors along the river system assigned as buffer zones

**Objective:** The river system has an important functional meaning to the ecosystems of the Wienerwald. The river system is the most important transport systems not only for water, but also for nutrient and other components.

**Location:** Along of rivers and creeks a corridor of 50m to each side has been designated as buffer zone. Floodplain forests are included to this corridor in total even they are exceeding the 50m distance to the river. Only within the area of dense settlements, there is no corridor along the rivers.

**Management:** There are no new regulations or limitations through the designation as a buffer zone of the biosphere reserve. In future, special measures and means of subsidies or compensations might be focused to the buffer zone and projects or management contracts may be implemented based on a bottom up process.

The aim of management will be to establish buffers to intensively managed farmland to avoid input of nutrients and pesticides into the rivers. A second objective of management activities might be the establishment of functional corridors for animal and plant species to connect rare habitats within intensively managed landscapes.

### 5_1_3_6 Transition / Developement zone

The Seville strategy defines this zone as "*a flexible **transition area**, or area of co-operation, which may contain a variety of agricultural activities, settlements and other uses and in which local communities, management agencies, scientists, non-governmental organizations, cultural groups, economic interests and other stakeholders work together to manage and sustainably develop the area's resources.*"

**Objective:** This part of the biosphere reserve is the largest and includes the main regions of human activities.

**Location:** All areas, which are not already designated as core or buffer zones. It includes areas of settlement, farming and forest management, industrial zones and areas of recreation.

**Management**: For the development of sustainable management of natural landscapes and natural resources, this zone of the biosphere reserve needs special focus of management and activities. Research and monitoring have to be done to analyse positive and negative human impacts and to develop models and concept of a sustainable development. Adopted land use and management methods have to be developed, tested and implemented to show new solutions for other regions.

### 5_2 East Carpathian Biosphere Reserve, Workshop results on Zonation

Within a project founded by the WWF Danube Carpathian Program, a workshop on zonation in biosphere reserves has been held on the 5th of May 2008 in ECBR.

The content of the Workshop was to discuss the function of the different zones of a BR. In the ECBR, where the review of the zoning was actually under discussion, we discussed the limitations within the zones in detail.

### Results ECBR

For all zones in the Uzhansky national nature park, the restrictions and limitations have been listed in a table.

| Zone | Ushanzky national nature park | Biosphere reserve |
|------|-------------------------------|-------------------|
| 1 | core zone | Core zone |
| 2 | regulated recreation zone | buffer zone |
| 3a | permanent recreation zone | transition zone |
| 3b | management zone | transition zone |

*Table 5: Correlation between zones of the Uzhansky national nature park and the zones of a BR.*

In the first step, the objectives of all 4 zone where described by the participants as the following:

- Zone 1 (core zone):
    - Full protection
    - Strict conservation of wild nature
    - Scientific research activities of nature ecosystems
    - Protection zone
    - Scientific research
    - Conservation of flora fauna and landscapes
- Zone 2 (regulated recreations zone, buffer zone)
    - Tourism under control of park
    - Any construction forbidden
    - Reserve for enlarging zone 1
    - Wild nature shown to visitors
    - Limited recreation for restoration nature (upgrade)
    - Limited activities on forest economy
    - Eco-education, tourism, protection of zone 1 restoring of natural landscapes (running forest economy)
    - 2. zone should be strictly controlled by BR Management
- Zone 3a (permanent recreations zone, transition zone)
    - Construction of hotels, motels parking lots
    - Tourist infrastructure
    - Economic activities in a sustainable way as a model for others territories
    - Recreation eco-education, tourism, construction of hotels and resting places
- Zone 3 b (management zone, transition zone)
    - Running the traditional rural and forest "economic" activities.
    - All kinds of activities without harm to nature
    - For concentrating of visitor flows in more adopted / prepared places
    - All the activities in the protected area must be run under the control of BR
    - Ongoing economic activities

After the objectives of the zones where pointed out, all possible impacts have been listed and for each zone a status of restriction was given (Table 6). The result shows, how it should be and does not mean, that all this regulations are already set by law. But for the ongoing Zonation process and for communication the results this matrix is very important.

For infrastructure, two values are listed in the table. The first value deals with already existing infrastructure, the second value deals with the construction of new infrastructure in future.

The regulation or limitation was assessed in three levels and signed by three symbols in the table. "-" means, that this impact is generally forbidden within a zone while "+" means, it is generally allowed. "p" indicates that a special permission is needed for this kind of land use or infrastructure. "p" without brackets tells, that the permission is granted by the biosphere reserve management authority. "(p)" in brackets means, that the permission is granted by another authority.

| | Impact | Zones | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3a | 3b |
| 1 | building settlements | - | - | + | + |
| 2 | building hotels, motels | - | - | - | + |
| 3 | industrial building | - | - | - | + |
| 4 | pastures, cattle grazing | x | p | + | + |
| 5 | hay making, meadows | x | p | + | + |
| 6 | cutting of firewood (only dead or ill logs) | - | - | + | + |
| 7 | traditional plug (agriculture) | x | x | + | + |
| 8 | forestry | | | | |
| 8 | a. clear cutting | - | p | p | p |
| 8 | b. sanitary cuts | - | p | p | p |
| 8 | c. restoration (regeneration) | - | + | + | + |
| 8 | d. collecting  mushrooms, berries, medical herbs | + (-) | + | + | + |
| | e. sustainable forestry | - | p | + | + |
| 9 | Tourism | | | | |
| 9 | a. wild tourism (does not stick on trails) | + | + | + | + |
| 9 | b. regulated tourism (on trails) | + | + | + | + |
| | c. extreme sports (paragliding, climbing, rafting) | - | - | + | + |
| 10 | fishing | 0 | p | + | + |
| 11 | hunting | - | - | + | + |
| 12 | scientific research | | | | |
| | a. destructive | p | p | + | + |
| | b. not destructive | p | p | + | + |

| | Impact | Zones | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3a | 3b |
| 13 | Infrastructure (existing/new projects) | | | | |
| | a. roads railway | -/- | p/p | +/+ | +/+ |
| | b. trails (hiking, riding, biking) | +/- | +/p | +/+ | +/+ |
| | expedition in caves | +/- | +/p | +/+ | +/+ |
| | cellular phone tower, electrical lines, pipelines | -/- | +/p | +/p | p/p |
| | ski slopes, cable cars, snow machines | -/- | -/- | +/(p) | +/(p) |
| | boarder infrastructure | -/- | +/+ | 0/0 | +/+ |
| | Aussichtstürme, viewing towers | -/- | p/p | +/+ | +/+ |
| | Game feeding fields | -/- | -/- | +/+ | +/+ |
| 14 | game feeding huts | -/- | +/+ | +/+ | +/+ |
| 15 | forest huts, shelters | +/- | +/p | +/+ | +/+ |

*Table 6: Limitations and regulations for the different Zones in the UNNP.*
*(- = forbidden, + = allowed, p = permission by the park management needed, (p) = permission by another administration unit needed). In the infrastructure section two values are given. The first value deals with existing infrastructures and the second value deals with new planned infrastructures.*

## 6  HELPFUL GUIDELINES

In this chapter some helpful guidelines for the implementation process are presented. The first two are dealing with the participation process. The third is describing the Logical framework approach, which is also very helpful in the conception of projects in complex environments.

### 6_1 Communication and Participation in the Life Cycle of a Protected Area

Excerpt of the draft version of the book:

**Basics of communication**

"One cannot not communicate", is the first of five basic postulates for communication developed by P. Watzlawick, an Austro-American psychologist and philosopher (1921–2007). Any behaviour, even if not a single word is spoken, is some kind of communication (Watzlawick et al., 1969).

Establishing a protected area is usually connected with extensive communication and participation activities. Generally, communication and participation in a protected area consist of a broad range of different approaches such as information events, discussions, meetings with opinion-leaders, press releases, and articles in the media. Even with no communication efforts, people talk about the protected area. By not including the stakeholders in the region, the park non-verbally communicates that the (proposed) protected area is not interested in the concerns of residents. In the case of a wilderness area with solely ecological aims, the interests of local residents may be neglected, and fauna and flora seem to be considered more important than humans. But even in this case, by sending this type of "message", one can only conclude that the protected area eventually will not be well supported, and as a result the objective of preserving biodiversity may not be achieved in this region. It is therefore of crucial importance to understand that the effectiveness of biodiversity conservation and park management not only depends on ecological management plans and visitor steering but also on the general acceptance of the existence of the park by the people living in a region. This is especially significant in parks with very tight budgets where voluntary commitment and ecologically sensitive behaviour also outside the park can have a great impact on the park's ecology.

"Every communication has a content and a relationship aspect; thereby the latter determines the former one". This second axiom postulated by P. Watzlawick was further developed by Schulz von Thun in 1981. According to his "four sides model" each communication has four aspects (cp. Fig. 9):

- the facts somebody wants to convey (pure content),

- some information about the sender (self-revealing aspect),

- some information about the relationship between sender and receiver (emotions), and

- the appeal sent out with the message (what reaction does the sender want to achieve).

These different aspects have to be considered when communicating with stakeholders. Especially the concept of relationship seems to be important as often prejudices exist due to former conflicts related to nature conservation or a lack of understanding and acceptance between different interest groups (e.g. conservationists versus hunters). "Keep in mind that emotions always dominate the facts. And true is *not* what person A *says*; it is what person B
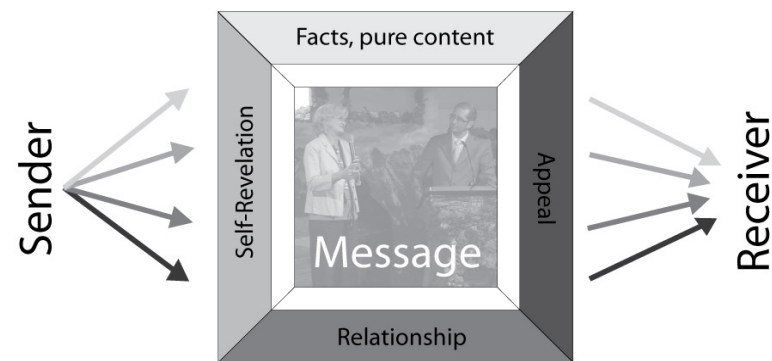
*understands*!" (Schröder, 2008).



*Figure 1: Four sides communication model*

Souce: Authors' draft based on von Thun (1981).

Conservationists often find it difficult to leave their scientific (or political) roles, start talking to locals and consider their different perceptions and interests. However it is not sufficient to simply tell people about the significance and loss of biodiversity so that they can act accordingly. Planners of protected areas need to use communication differently, and actively involve people rather than just make scientific information available to the public (Hesselink et al., 2007).

Over the last 40 years there has been a paradigm shift in the role of protected areas from strictly protected reserves not considering the impact on local people (top-down approach) to a broader conceptual and practical approach including sustainable use and participation processes (bottom-up approach). Before 1970, "many protected areas came into being at a simpler time in a less complex world" (Phillips, 2003, 12). It was assumed that "governments knew best, and public opinion was something not to be influenced by". Currently, it is recognized that protected areas contribute, besides their conservation function, to (regional) sustainable development, human welfare, and even poverty alleviation. A much broader range of stakeholder groups with an equally broad range of interests and agendas in protected areas has to be addressed and involved in the participation processes. Nowadays, communication processes play a crucial role in gaining cooperation of individuals, organisations and all kinds of different interest groups in society to act on and reduce the drivers for biodiversity loss. Since the 4th World Parks Congress, held in Caracas in 1992, the importance of participation processes is increasingly emphasised by international organisations, such as the CBD (2004), IUCN (2005) and UNESCO (1995 and 2008).

**Basics of participation**

The term participation does not have a single meaning. There are some people who already talk about participation if people are informed through mailed flyers. For others, real participation only takes place when local interest groups are allowed to participate in the decision process (Pfefferkorn et al., 2006). The meaning of participation ranges from a mere exchange of information to consultation and finally to participating in decision-making processes (see

Figure 2). None of the international organisations specifies what level of participation is adequate for the establishment and implementation of a protected area. This has to be decided case by case, as the situation and conditions will vary for different regions.

It should be noted that at the beginning of each communication process the chosen level of participation needs to be made clear to the persons who will be involved in the process, and that those who organise such processes (usually the park's proponents or managers) first have to define aims, objectives, organisation, time frame and extent to which stakeholders are involved. This includes that there can be "too little" as well "too much" of the different forms of participation, depending on the content and the respective stakeholder group.



*Figure 2: Different levels of participation in protected area's planning and establishment*

Source: Authors' draft based on Pfefferkorn et al. (2006, 16).

**Strategic planning of communication and participation**

Communication and participation processes have to be planned strategically, with key stakeholders being identified prior to deciding how to involve them or what to communicate to them.

*Who are the key stakeholders?*

One method of determining who the park's regional stakeholders are is to ask the following questions (Thomas and Middleton, 2003):

- What are people's relationships with the area? How do they use and value it?

- What are their various roles and responsibilities?

- In what ways are they likely to be affected by any management initiative?

- What is the current impact of their activities on the values of the protected area?

Once an overview is gained, the stakeholders may be classified according to their interests, concerns, attitudes, influence, rights, or knowledge. Principally, interest groups can be distinguished as follows (cf. Alexander, 2008):

- Primary stakeholders: those who are directly affected, who may benefit or suffer loss or whose permission, approval or (financial) support is required (e.g. land owners, farmers, hunters, governmental institutions).

- Secondary stakeholders: those who are indirectly affected such residents of an area which shall be nominated as a protected area.

- Tertiary or key stakeholders: those who are not directly concerned but have significant influence or political power (e.g. politicians, opinion leaders, local and regional NGOs); this interest group can also belong to any of the first two groups.

- Other stakeholders: those who have some interest in the specific protected area, or generally, in nature conservation (e.g. general public, scientists, tourists, other protected areas, other NGOs).

The degree of concern and influence of the different interest groups may be visualised in a stakeholder matrix (such as the one shown in Fig. 11). As a prerequisite, it is recommended that the attitudes (acceptance or refusal) of the stakeholders that are deeply involved and/or are highly influential are assessed.
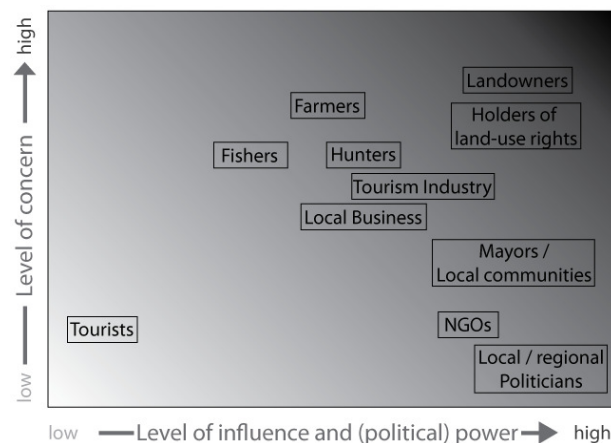


*Figure 3: Stakeholder matrix showing the degree of concern and influence of the different interest groups*

*What to communicate?*

Once the key target groups are chosen, it has to be defined which key messages should be communicated to which group of stakeholders. In the development process of the Biosphere Reserve Nockberge (Austria), for example, the broad public was told that in the region the best biosphere reserve in the whole Alpine space would be developed, that all stakeholders would be part of the process. In contrast, the land owners were affirmed that a biosphere reserve will bring advantages for them and that their opinion is solely considered (Jungmeier et al., 2007). A major problem with such communication strategy lies in the differences between the aims and processes communicated to different groups of stakeholders. Such a strategy therefore lacks credibility and leads to distrust in all further park activities.

In general, for communication processes, some basic principles should be considered (Schröder, 2008):

- Addressing the "mind" (rational level) but also the "heart" (emotional level) of the park's audience;

- Reducing complexity of information down to short and easily understandable messages;

- Preference for dialogues instead of monologues including listening and asking;

- Argumentation towards interests instead of positions, goals instead of measures;

- Transparency in handling concerns and suggestions.

Communication in nature conservation typically aims at triggering a change of mind or behaviour. In order to allow for changes several options on how to overcome existing obstacles need to be discussed when drafting the PA's management strategy. As a result of such process, stakeholders themselves may be encouraged to find or contribute to solutions. "Keep in mind: If you want to achieve something, give the credits to the others, do not claim them for yourself!" (Hesselink, 2008).

*How to involve stakeholders?*

There are several ways of informing and involving local people in the process of developing a protected area.

**Information (one-way communication)**

The first step of participation is the provision of comprehensible and audience-specific information. In order to be able to participate in a decision-making process, stakeholders must at least have some basic information and knowledge about the topics to be discussed. Several measures for spreading information can be considered for a PA participation and communication strategy.

*Distribution of leaflets*: The message includes in leaflets should be positive, simple and brief, and be communicated in visually interesting and appealing ways. The target groups and the way of distribution should be determined before starting to design the leaflets. The effects of a leaflet should always be pre-tested by confronting uninvolved people with the message ("disaster check"). By the way, people remember pictures better than words!

*Information (evening) events (presentations, discussions)*: A convenient location and time should be chosen. The level and amount of information presented has to be adapted to the concerns of the invited participants. Everyday experience and examples help to raise interest in the respective issues. However, sometimes the attitudes of stakeholders become worse after the first information event. Follow-up activities are therefore strongly recommended; otherwise rumours and fears may easily spread. Presentation of information also has to consider that only a small part of information

(about 10 percent) is remembered by the audience in a longer time perspective.

*Provision of information platforms*: Information platforms keep their users posted. Platforms can be either organised as periodic personal meetings, newsletter or a web site (including a "Frequently Asked Questions" page). The information presented should be brief and up-to-date; it should be made clear, that no decisions are taken by members of information platforms.

For any of the above-mentioned events or platforms, it is crucial that opinion leaders and local stakeholders are involved in the planning of the information instrument. Public relations (P.R.) connected to these events are equally important (e.g. regular contacts with journalists or broadcast stations). Furthermore, when meeting in person, local products should be offered, and small gifts may be available.

**Consultation (ranging from two-way communication to participation in decision-making processes)**

Once people are informed about the idea of establishing a protected area, it has to be decided whose opinions should be considered in the planning phase and who might even be allowed to participate in the decision-making process. For deciding which stakeholder groups (based on a stakeholder matrix; see Figure 3) should be invited for participation in the decision-making process, a ready-made "check-list" does not exist. The choice of participating stakeholders depends, on the one hand, on the local and regional context, but on the other hand, also on the legal and institutional frameworks of the responsible government or planning authority. For instance, some nature conservation laws might prescribe the inclusion of certain stakeholder groups. During the preparatory work for stakeholder analysis and participation, it may turn out that the stakeholders and their degree of participation cannot be defined a priori. Therefore, a participatory decision-making process has to be framed in order to be (or seem to be) arbitrary, but that is otherwise open and flexible enough to include additional opinions and forthcoming knowledge. The latter argument is important insofar as all participation processes are crucial for gaining local tacit knowledge which usually is not codified (i.e. included in statistics or published documents).

Several methods exist that facilitate two-way communication and further involvement of stakeholders; in the following, some examples of such methods are described.

*Kitchen table talks* involve face-to-face communication in a relaxing atmosphere and may be used to convince opinion-leaders or critics in the region to facilitate conflict resolution, pass on individually balanced information, and gather interesting and sometimes crucial details.

*Field trips* allow for complex issues to be best described when experiencing an ecosystem directly (vivid examples). On the spot, different user groups (e.g. farmers, foresters, hunters) have the opportunity to explain their specific needs and plans for the future; by changing perspectives a deeper understanding of complex problems may be achieved. Time for observations and technical discussions is as relevant, as are social interactions.

*Workshops or working groups*: In workshops different actors work together on specific topics; it has to be assured that they have a similar information level; the time resources of the participants should be considered. It is important not to invite too many people as not everyone will get the opportunity to express his/her opinion (small groups). External moderators are recommended, and the objectives and roles of the participants should be made clear at the beginning of the meeting.

A good working atmosphere significantly contributes to the success of a workshop. Several presentation or participation techniques encourage the attendance and creativity of the participants, amongst these are the seating arrangements (see Box 1), visualisation techniques (see Box 2) or the "World Cafe Method" (see Box 3). In general, it should be clear to participants how the results of a working group are achieved (process accepted by participants), and how the results are used. In such setting, even those who might not agree with the majority to the results achieved can accept the *process* as a decent one (Getzner, 2002).

*Steering committees*: Here the members either suggest solutions or are actively involved in taking decisions. In order for the steering committee to

function properly clear organisational and processing structures need to be in place. It should be noted that items to be addressed should be decided prior to the meeting.

*Virtual forms of communication*: The Delphi method is an interactive approach which relies on a group of selected experts. The experts answer questionnaires on a specific topic in two or more rounds. After each round, an anonymous summary of the experts' opinion is provided together with the reasons for their judgments. Thus, experts are encouraged to revise their earlier answers in light of the replies of other members of their panel. It is believed that during this process the range of the answers will decrease and the group will converge towards a consistent answer (Linstone and Turoff, 1975).

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*Box 1: Seating arrangements*

Seating arrangements are usually left up to chance, but where a participant sits may actually influence overall meeting effectiveness. Thus, seating should be matched with the respective goals of a meeting:

*Problem solving* (a) requires a high level of interaction; the seating has to reflect equality. Sitting in a circular pattern avoids positioning someone at the head of the table – an indirect placement of power. Round table arrangements encourage contributions from all participants.

In *presentations* (b), the presenter needs to be visible for all participants. A U-shaped arrangement promotes equality and interaction and allows the presenter to move freely to the individual group members and address individuals.

For *decision-making processes* (c) a rectangular table should be chosen. Identifying a leader who can facilitate, direct and moderate discussions will help to keep the meeting focused. Placing two individuals with "aggressive" personalities next to each other should be avoided.



(a)          (b)          (c)
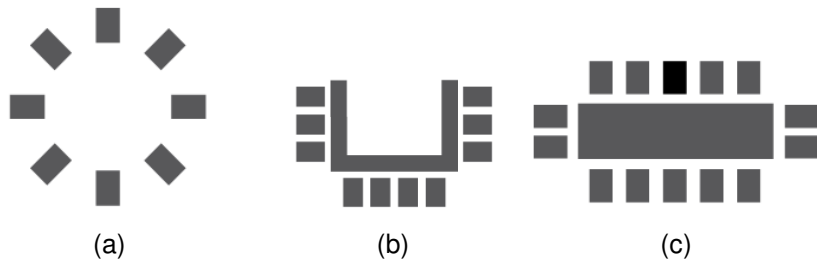
*Box 2: Visualisation techniques*

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Two of the main facilitating techniques are "asking" and "visualising". The combination of both techniques helps to structure meetings and increase participation and creativity. Here are some examples for certain techniques (e.g. Rees, 1998):

- *Flashlight* (=participation): short statements are collected of all participants on a specific topic; this gives an impression of the variety of opinions, feelings and prejudices.

- *Brainstorming* (=collecting ideas): based on a specific topic, all participants are asked to come up with ideas and associations which are written down at a flip-chart visible to all participants. At this stage, comments to other participants' opinions should be avoided.

- *Clustering* (=structuring ideas): collected key words / ideas that somehow fit together are marked with the same colour.

- *Moonview* (=encouraging to "think big"): the participants are encouraged to open their horizon by setting "every day obstacles" (e.g. lack of money, existing laws) aside.

*Box 3: "World Café Method"*

The World Café is a simple methodology for encouraging conversations among 25 (or less) participants about defined questions. The method allows for collecting the ideas and experiences of each group member in a very short period of time (1.5 to 2 hours). If the topic is boring or irrelevant, the conversation may drift to small-talk.

*Preparation*: Put four tables in the room; equip each table with markers (four different colours) and flip-chart-paper; each table addresses a certain topic; three questions have to be answered per table.

*Instructions for participants*: The participants have to be equally distributed amongst the four tables; the sub-groups are supposed to discuss the respective questions at that table; one person is nominated as "host of the table"; he or she will take the minutes and stay at the table during the whole process; after 20 minutes of discussions, the other participants change to another table; however it has to be assured that the sub-groups do not always comprise of the same people.

*Instructions for the host of the table*: The host stays at his or her table; when the second sub-group arrives, he or she first presents briefly the results of the previous group before re-starting the discussion; after four rounds (after each participant has been at each table) the host presents the overall results on the respective topic to the whole group.

*How to deal with conflicts?*

Normally when the idea of establishing a protected area is communicated for the first time in a certain region several conflicts arise ("wrinkle phase", Figure 4). In fact, it would be "strange" if the idea of establishing a protected area would not lead to conflicts at all. However, if the proponents of the PA plans do not perceive conflicts or debates, it might be that not the full range of decisive stakeholders have been included in the process. Therefore, the

lack of conflicts or debates might function as a "red flag" for proponents and planners.[3]

At first sight, these make the process quite difficult. However on the positive side, conflicts at least show that there is an interest in the topic. Communication processes make sure that the problems are not neglected but discussed in order to find common views of the situation and that a process of conflict resolution accepted by the highest possible number of stakeholders is implemented. Some recommendations that may help managing this difficult communication phase (Suske et al., 2007) include:

- Sufficient time to discuss and exchange ideas and opinions: It is generally better to take time and show respect by listening carefully and making a genuine effort to understand rather than rushing or trying to achieve fast solutions. This is especially important when participants are confused, angry or disappointed.

- Some viewpoints in conflicts seem to include only "yes" or "no" statements. It is therefore important to explore the underlying reasons for acceptance or refusal, and to collect information to understand the interests of supporters and/or opponents.

- Patience for long-term processes: Formulating opinions, collecting information and decision-making takes time, on the side of the stakeholders involved as well as on the side of the proponents and planners of a PA. It is therefore crucial to be "patient" since unresolved problems or conflicts may pop up at a later stage, and can even "destroy" solutions already achieved and agreed upon.

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[3] Protected areas can be considered a specific, multi-purpose use of land. As land is generally scarce, there might always be several options for using (e.g. developing) the land. Conflicts are therefore somehow "natural" since each single plot of land faces several alternatives of use.
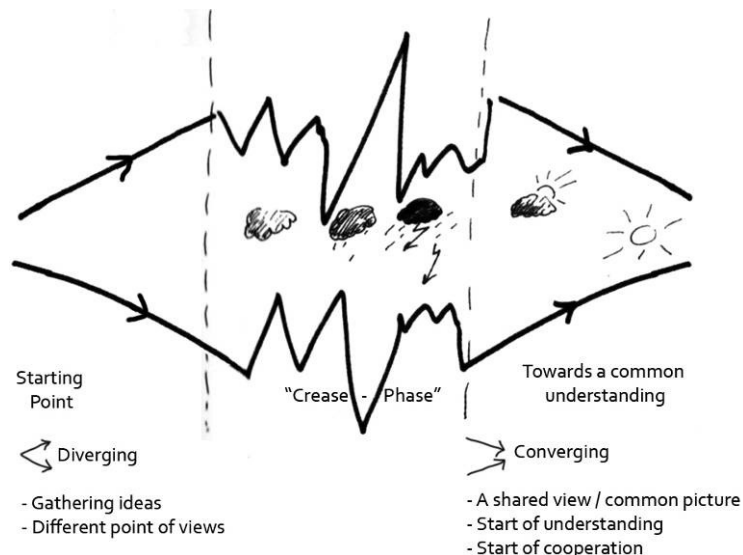
*Figure 4: Solving conflicts in communication processes*

Source: Suske et al. (2007, 35).

**Communication within the life cycle of a protected area**

Within the "life-cycle" of a protected area different pre-conditions prevail which means that different communication strategies have to be followed (Figure 5).

**Pre-Phase**

During the early planning stages one needs to deal with a high degree of uncertainty, resulting from a general lack of information and trust which may also be the outcome of previous conflicts and local/regional problems. Spreading the idea of establishing a protected area in a region depends on the close cooperation with key stakeholders and opinion leaders, which have to be identified, informed and given the chance to become involved in the process. It is also crucial to define the key messages for each stakeholder group.

In this phase, the distribution of information has to be rather focused than widespread. The importance of personal meetings with selected opinion leaders cannot be overestimated.

**Planning Phase:**

The establishment of a protected area is a (public policy) intervention in regional development and usually involves a wide range of different local and

regional interests. Integrating these interests at an early stage in the planning process is not merely a question of successfully "promoting" the park. In fact, participatory planning allows for a better understanding of problems, and therefore for better, commonly accepted solutions. Nevertheless, the procedure has to be handled in a focused way to avoid confusion. The main target groups in this phase are primary stakeholders such as land owners, farmers, hunters and foresters. It is vital for the quality and success of the planning process that informative, consulting, decisive, executive and controlling processes are clearly separated. The stakeholders' involvement in the planning phase is the initial point of a long-term cooperation in the management of a protected area and therefore has to be based upon a climate of trust.

Participative mechanisms are essential for planning a protected area, however, "too much" participation may also lead to an early end of the process.

**Implementation Phase**

Stakeholder involvement does not end with the establishment of a protected area. The ongoing participation is clearly determined by the institutional setting of the park with a clear differentiation being made between decision-making, consultative and controlling bodies. Even in difficult situations decisions must be possible. Further to this it is the task of the management team to develop a partnership with a wide range of different interest groups, including secondary stakeholders such as hotel and restaurant owners, local entrepreneurs or environmental and cultural associations (NGOs). Besides the local networks, contacts should be established with research institutions and other protected areas on a national or international level by establishing individual partnerships or joining umbrella organisations such as ALPARC, EUROPARC Federation, or national federations of protected areas. In order to keep the public interest alive, regular media work and P.R. efforts (such as presenting "success stories") should accompany the daily work of a protected area.
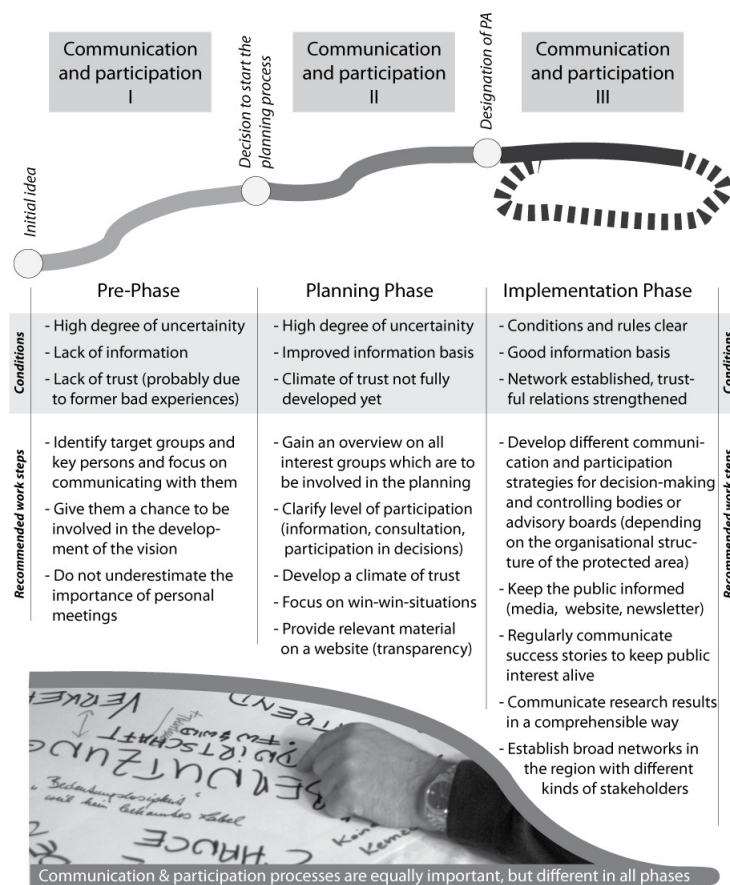
Figure 5: Communication and participation processes in the different phases of the establishment of a protected area

## 6_2 Governance and decision-making

**The concept of governance**

Establishing and managing protected areas, and developing the region around these areas are important decisions that most often are taken by government bodies and public authorities, but also by NGOs and sometimes private organisations. The process how these decisions are made is usually

called "governance". A recent definition of the concept of "governance" is the following:

> "Governance is the process whereby societies or organizations make important decisions, determine whom they involve and how they render account. The term 'governance' is adaptable to both structured and unstructured settings. That is, it can relate to direction-setting in organisations (such as businesses, governments, non-profit entities) and in looser associations (partnerships, communities, alliances, international accords). […] The process of governance - the taking of decisions and rendering of account – typically rests on a governance system or framework. The formal elements of this system (constitutions, bylaws, policies, conventions) define how the process is supposed to function in a particular setting. But in practice, the informal traditions, accepted practices, or unwritten codes of conduct that people follow are often equally important in determining how governance works." (Plumtre, 2010, at www.iog.ca).

With reference to protected areas, Graham et al. (2003, 2-3) define governance as the

> "interactions among structures, processes and traditions that determine how power is exercised, how decisions are taken, and how citizens or other stakeholders have their say. Fundamentally, it is about power, relationships and accountability: who has influence, who decides, and how decision-makers are held accountable."

Governance was recognised as an important issue at the 5th IUCN World Parks Congress held in Durban in 2003. A series of workshops addressed the issue of governance in protected areas. In 2004, the Convention on Biological Diversity, at its 7th Conference of the Parties (COP), adopted a comprehensive protected area program of work which included as one of its four interlinked and mutually reinforced elements "Governance, participation, equity and benefit sharing". All of these are indicators of the importance that is now being placed on the whole issue of governance in protected areas.

## 6_3    Guideline for the Logical framework approach

Excerpt from AusGuideline "3.3 The Logical Framework Approach" Commonwealth of Australia 2005

(http://www.ausaid.gov.au/ausguide/pdf/ausguideline3.3.pdf)

The Logical Framework Approach (LFA) is a long established activity design methodology used by a range of major multilateral and bilateral donors.

The LFA is an analytical, presentational and management tool which can help planners and managers

- analyse the existing situation during activity preparation
- establish a logical hierarchy of means by which objectives will be reached
- identify the potential risks to achieving the objectives, and to sustainable outcomes
- establish how outputs and outcomes might best be monitored and evaluated

- if desired, present a summary of the activity in a standard format, and

- monitor and review Activities during implementation.

LFA can be used in

- **identifying** and assessing activity options

- **preparing** the activity design in a systematic and logical way

- **appraising** activity designs

- **implementing** approved Activities, and

- **monitoring, reviewing and evaluating** activity progress and performance.

LFA is best started early in activity design. (It is more difficult to use the LFA to review and/or restructure ongoing activities which were not designed using LFA principles and practices). As LFA is an 'aid to thinking', it has widespread and flexible application.

### 6_3_1 the Logical Framework Matrix

| Activity Description | Indicators | Means of Verification | Assumptions |
|---|---|---|---|
| **Goal or Impact** – The long term development impact (policy goal) that the activity contributes at a national or sectoral level | How the achievement will be measured – including appropriate targets (quantity, quality and time) | Sources of information on the Goal indicator(s) – including who will collect it and how often | |
| **Purpose or Outcome** – The medium term result(s) that the activity aims to achieve – in terms of benefits to target groups | How the achievement of the Purpose will be measured – including appropriate targets (quantity, quality and time) | Sources of information on the Purpose indicator(s) – including who will collect it and how often | Assumptions concerning the Purpose to Goal linkage |

| | | | |
|---|---|---|---|
| **Component Objectives or Intermediate Results** – This level in the objectives or results hierarchy can be used to provide a clear link between outputs and outcomes (particularly for larger multi-component activities) | How the achievement of the Component Objectives will be measured – including appropriate targets (quantity, quality and time) | Sources of information on the Component Objectives indicator(s) – including who will collect it and how often | Assumptions concerning the Component Objective to Output linkage |
| **Outputs** – The tangible products or services that the activity will deliver | How the achievement of the Outputs will be measured – including appropriate targets (quantity, quality and time) | Sources of information on the Output indicator(s) – including who will collect it and how often | Assumptions concerning the Output to Component Objective linkage |

### 6_3_2 *Logical Framework Approach Terminology*

**Activity description** provides a narrative summary of what the activity intends to achieve and how. It describes the means by which desired ends are to be achieved (the vertical logic). That is, it describes what the activity will actually do in order to produce the planned outputs and outcomes.

**Activity component:** Constructing the activity description may involve disaggregating the work to be undertaken into a number of 'activity components'. An activity component consists of a sub-set of inputs, work program tasks and outputs that form a natural whole, and can be considered as a separate part of the overall activity.

Components may be identified on the basis of a number of possible variables, including

- technical features (e.g. a health activity may have components focusing on malaria control, diarrhoeal disease, and acute respiratory infections)

- geographic locations (e.g. a census support activity focusing its capacity building activities on different provinces or regions and at the national level)

- beneficiaries (e.g. an HIV aids activity focusing on raising awareness among schoolchildren, sex-workers, injecting drug users and health workers)

- management/organisational structures (e.g. an agriculture activity divided into extension, training, research and credit components to reflect the local structure of the Department of Agriculture)

- phasing of key tasks (e.g. a rural electrification activity which requires a feasibility study, pilot testing, implementation and maintenance stages.

Identifying appropriate component 'headings' will thus depend on a number of context-specific factors. Agreement on what the components should

be is best determined through a consultative process with key stakeholders.

**Goal/Impact** refers to the sectoral or national objectives which the activity is designed to contribute to, eg increased incomes, improved nutritional status, reduced crime. The goal helps set the macro-level context within which the activity fits, and describes the long-term impact that the activity is expected to contribute towards (but not by itself achieve).

**Purpose/Outcome** refers to what the activity itself is expected to achieve in terms of sustainable development results, if the relevant assumptions of the activity design are correct. It is the positive developmental change which the activity would produce if it were completely successful (and the assumptions were fully accurate). Examples might include increased agricultural production, higher immunisation coverage, cleaner water, or improved legal services.

**Component Objectives/Intermediate Results:** Where the activity is relatively large and has a number of components (output/work program areas) it can be useful to give each component an objective statement. These statements should help provide a logical link between the outputs of that component and the overall purpose/outcome.

**Outputs** refer to the tangible products (goods and services) produced by undertaking a series of tasks as part of the planned work of the activity. Examples might include: irrigation systems or water supplies constructed, areas planted/developed, children immunised, buildings or other infrastructure built, policy guidelines produced, and staff effectively trained. The delivery of outputs should be largely under activity management's control.

**Work program** refers to the specific tasks to be undertaken as part of the planned delivery of the activity to achieve the required outputs. Examples for a new community water supply might include: establishing water users committee and maintenance procedures, site preparation, collection of local materials, tank construction and pipe laying, digging soak pits, and commissioning. However, the Logframe matrix should not include too much detail on work program otherwise it becomes too lengthy and potentially prescriptive. If detailed specification is required, this should be presented separately in a work schedule/Gantt chart format and not in the matrix itself.

**Inputs** refer to the resources required to undertake the work program and produce the outputs, eg as personnel, equipment, and materials. However, inputs should not be included in the matrix format.

**Assumptions:** Assumptions refer to assumptions made about conditions which could affect the progress or success of the activity, but over which activity managers may have no direct control, eg price changes, rainfall, land reform policies, non-enforcement of supporting legislation. An assumption is a positive statement of a condition that must be met in order for objectives to be achieved. A risk is a negative statement of what might prevent objectives being achieved.

**Indicators:** Indicators are measure of progress or lack of progress used to assess progress towards meeting stated objectives. An indicator should provide, where possible, a clearly defined unit of measurement and a target detailing the quantity, quality and timing of expected results.

**Means of verification:** Means of verification should clearly specify the expected source of the information we need to collect. We need to consider how the information will be collected (method), who will be responsible, and the frequency with which the information should be provided.