integrative protected
ipam
area management

An Expert System for
the Integrative Planning and Management
of Protected Areas

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IPAM – Toolbox
Integrative Protected Area Management

An Expert System for the Integrative Planning and Management of Protected Areas

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TABLE OF CONTENTS

TABLE OF CONTENTS

PREFACE

Protected Areas cover some 20% of the European continent. The management of these areas is not only a huge responsibility, but also a demanding challenge. A great deal of emphasis and know-how are necessary to preserve and develop these areas for future generations.

As the person officially responsible for nature conservation in Carinthia, I am happy and proud to present the IPAM Toolbox, an interactive expert system for managing Protected Areas. The Toolbox presented here has been jointly developed by an international expert team under Carinthian leadership. The Toolbox may be regarded as a result of the Carinthian system of developing, providing and promoting high-tech instruments for sustainable development issues. The Toolbox has already been internationally recognised as a prototype. The positive feedback we have received in international conferences and presentations has encouraged us very much in our efforts.

This booklet explains the functions of the Toolbox and illustrates it using a practical example. The virtual consulting process is documented by means of a detailed description and numerous illustrations. In combination with a virtual demo-version, the aim of this booklet is to draw attention to the usefulness of the system for planners, managers and consultants of Protected Areas. It is important to note that the development of the Toolbox is closely related to an outstanding educational offer at the University of Klagenfurt, an MSc course in "Management of Protected Areas" (www.mpa.uni-klu.ac.at).

I want to congratulate and thank all partners, experts and scientists for their ambitious and dedicated work of the last three years. It is my sincere hope that this Toolbox will become an important instrument for improving the management of Protected Areas. Let's make Protected Areas beneficial for both society and nature!

Dr. Martin Strutz

"Experience grows through being shared". This booklet presents a newly-developed expert system that is intended to support planners, managers and consultants of Protected Areas through a system of self-assessment, focused recommendations and a comprehensive knowledge base. The interactive Toolbox provides substantial information on the integrative management of Protected Areas by means of new information technologies. The interactive system is free of charge and is open to everybody on the homepage www.ipam.info. Developed in cooperation with international partners and organisations, this expert system aims to be an important backbone for the future development of Protected Areas in Central and Eastern Europe.

The expert system consists of three components, a self-assessment, a set of standardised recommendations and a knowledge base. The three components aim to provide any information that is necessary to develop a particular Protected Area. The self-assessment is an interactive checklist of questions. They help to identify and focus the problem and the most recent state of development of the Protected Area. The structure of the self-assessment follows the "life cycle" of the Protected Area (pre-phase, planning, ongoing management) and cross checks 25 fields of activity. However, the self-assessment finally results in a Progress Report that points out the deficits in planning and managing the Protected Area and in standardised recommendations. The knowledge base, as an ongoing tool, provides additional materials: reports, projects, organisations, people, best practice, etc. are compiled in an extensive database. Materials may also be added and uploaded by the visitor.

Additionally, a glossary of the most important technical terms is available in five languages. As a first step the Toolbox is available in English, Czech, German, Slovenian and Croatian. Further languages may be added. For the convenience of visitors, a virtual assistant has been created: IPAM Joe is at visitors' disposal for any information they may need.

HIGH-TECH FOR PROTECTED AREAS

Integrative Planning and Management

The protection of areas and sites is one of the most important instruments of modern, anticipatory strategies in nature conservation and in planning for sustainable rural development. Therefore, an enormous increase in the number and acreage as well as in the number of site categories has been registered. The number of Protected Areas in Europe listed by the IUCN (category I-VI) doubled between 1970 (2060) and 1990 (4400). The development of the coherent Protected Area system NATURA 2000 also indicates a rapidly increasing network of sites, meanwhile covering approximately 437,000 square kilometres.
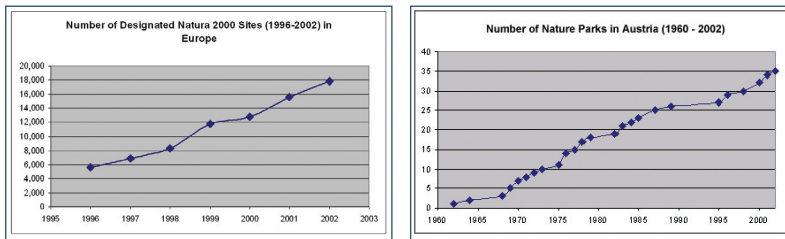
Figure 1: Increase in Protected Areas. At the regional, national and international level, the number of Protected Areas has been steadily increasing over the past few years. Here the development is exemplified by the Natura 2000 sites in Europe and the number of nature parks in Austria.
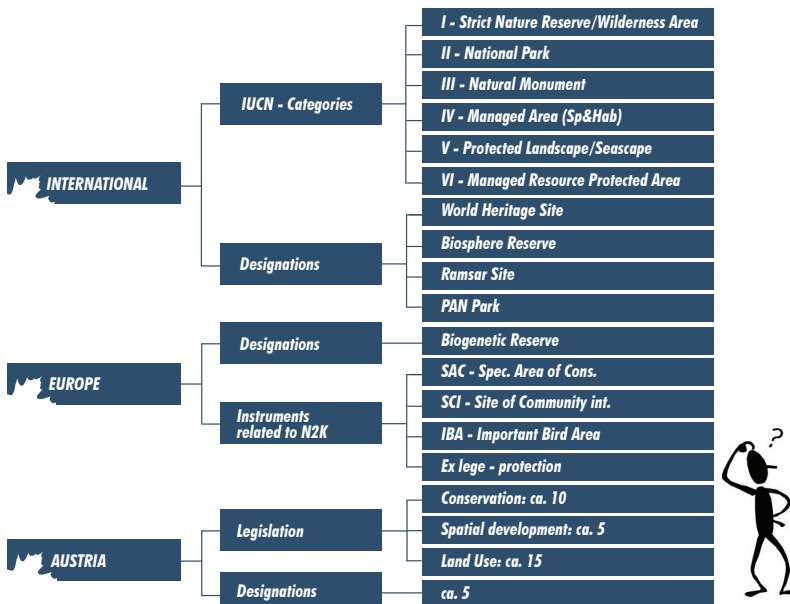
Figure 2: Different Protected Area categories. The variety of different types of Protected Areas sometimes leads to confusion. On the other hand, this variety offers many possibilities of categorising sites to match regional or international requirements.

The management of these sites has become a challenge for nature conservation and regional planning policies. For example, within EC-Europe an average of 23% of the land surface is under some type of legal protection. With regards to the acreage, planning a Protected Area has become one of the most extensive planning processes in any modern society. In this process, all three dimensions of sustainability play an important role.

- *Ecological dimension (natural heritage, ecosystems, land use regulations, spatial conflicts, spatial development policies, disaster prevention, etc.)*
- *Socio-cultural dimension (acceptance, involvement, participation, traditions etc.)*
- *Economic dimension (regional added value, marketing and branding, sponsoring, subsidy systems, etc.)*
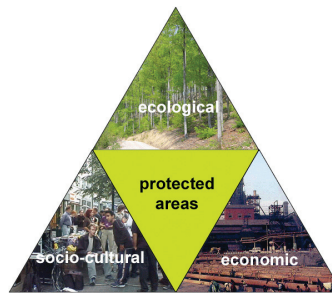
Figure 3: The integration of all three dimensions.

Since planning and managing Protected Areas involves many different legal, administrative and technical realities, the experts in charge have to face an unmanageable variety of tasks.

- *Integration of different interests*
- *Diversity of categories*
- *Diversity of technical issues*
- *Diversity of approaches*
- *International requirements and regional demands*
- *Permanent lack of resources*

In this complex environment, those persons in charge of the Protected Area are under constant pressure to decide, communicate, market, finance and – last but not least – to create benefits.

This is why the demand for highly skilled and highly motivated people has steadily increased over the past few years. Many of these Protected Area managers and planners see themselves overwhelmed by (ir)relevant information, but complain of a significant lack of knowledge. The IPAM Toolbox is intended to bridge this gap and has been developed in order to provide focused information for the questions "what should be done, and when and how should we do it?"

The IPAM Project

The Toolbox was developed in a large-scale Interreg III CADSES – project, involving partners from Central and Eastern Europe. The IPAM Toolbox project (Integrative Protected Area Management by Example of the Alps-Adriatic Region) focuses on the evaluation, harmonisation and development of methods, instruments and infrastructures for planning and managing Protected Areas.

The development of the project took 3 years, from April 2003 to March 2006. A total budget of EUR 2,370,000 was available. Cooperation partners in the project are Carinthia (Office of the Government of Carinthia, Dept. Spatial Planning, AT), Styria (Office of the Federal State Government of Styria, Dept. Nature Conservation, AT), Friuli Venezia Giula (Regional Directorate of Agricultural, Natural and Forestry Resources of the Autonomous Region FVG, IT), Veneto (Regional Park of Colli Euganei, IT), Czech Republic (Academy of Sciences, Institute of Landscape Ecology, Cz), Croatia (Medimurje County, Department of Spatial Planning, HR) and Slovenia (Ministry of the Environment and Spatial Planning, SL). The leading role in the partnership has been undertaken by the Government of Carinthia, Subsection for Nature Conservation.
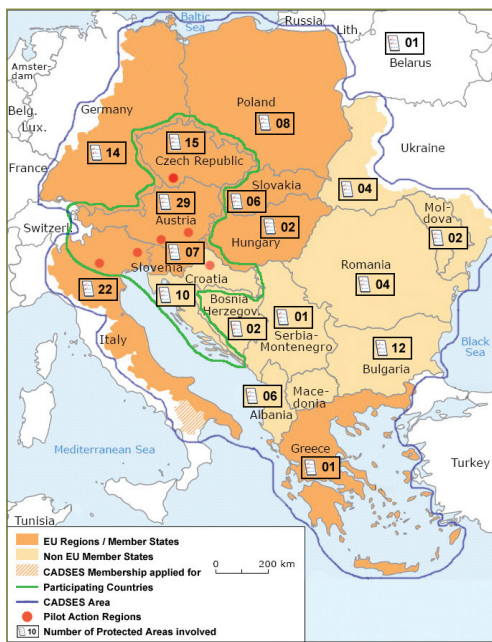
Figure 4: The project area, participating countries, pilot action regions and institutions involved. The project focused on Protected Areas throughout the entire CADSES area. In 6 regions, pilot actions were implemented in order to exemplify best practice in planning and managing Protected Areas. In order to fulfil the user's demands and requirements, some 150 Protected Areas were involved in an inquiry that showed up with exciting results.

The pilot actions focused on different aspects of planning and managing Protected Areas. The following activities were implemented:

- *Austria, Carinthia: all Protected Areas in Carinthia, specifically Natura 2000 sites*
- *Austria, Styria: Niedere Tauern, Natura 2000 site (SPA)*
- *Italy, Friuli Venezia Giulia: Val Alba, Zuc dal Bor (pSCI)*
- *Italy, Veneto: Colli Euganei, Regional Park*
- *Croatia, Mura, protected landscape, potential Natura 2000 site*
- *Czech Republic, Sudeten Mts.: Bohemian Forest / Sumava (National Park, Biosphere Reserve) and Novohradské hory Mts. (Protected landscape)*

The expected effects of all these activities are:

- *integration of Protected Area management into regional economy and rural development*
- *improvement of the quality of Protected Area management*
- *the raising of public awareness of the complex tasks of Protected Area management*
- *an effort to link Protected Area management with the tasks, instruments and tools of spatial planning and support for the implementation of European standards, policies, procedures and technologies.*

The development of the expert system that is presented in this booklet was an essential result of the project "Integrative Protected Area Management" (IPAM). It makes available results and findings of the projects and also of follow-up activities and related activities.

Figure 5: The toolbox-team. The toolbox has been developed in a three-year effort by a small core team (l.t.r.): first row: Michael Jungmeier (conception), Johann "Joe" Wagner (overall responsibility), Iris Velik (project management), Caro Stuchetz (team assistant), and second row: Hanns Kirchmeir (technical implementation), Martin Kühmaier (technical implementation), Daniel Zollner (contents). The team was substantially supported by international partners, experts and consulters.

The IPAM Toolbox

"We have gathered information, but are lacking in knowledge" – this was one of the results of the international inquiry conducted amongst 150 Protected Areas in Central and Eastern Europe. The lack of availability of good know-how and best practice has been pointed out by several different international institutions and therefore the Toolbox is based on explicit demands by:

- IUCN (International Union for the Conservation of Nature and Natural Resources)
- The UNESCO Man and Biosphere Program (United Nations Educational, Scientific and Cultural Organisation)
- CBD (Convention on Biological Diversity).

Technically speaking, such a Toolbox is a knowledge-based expert system, or simply an expert system. It combines expert knowledge (data and rules) with information technologies (database, models, scenario technologies, interactive user interfaces). An expert system will reduce complexity for the user and provide information that matches demand.

- The expertise lies in the system (structure, weightings).
- The user's requirements are identified.
- The available knowledge is precisely pre-selected (reduced).

The expert system IPAM Toolbox provides a dynamical, interactive consulting process to identify problems, to focus questions and to find solutions. It is addressed to:

- Planners, managers and consultants of Protected Areas
- Mainly issues that are relevant for Central and Eastern Europe
- Individual sites of all relevant international and European categories of Protected Area

Being substantially (co)financed by European funds, the Toolbox is free of charge and provides up-to-date information that is based on an internationally accepted concept. The Toolbox can be accessed on the IPAM-Homepage (www.ipam.info). Furthermore detailed technical documentation is available. The technical solution is composed of a large variety of IT tools (PHP, HTML, SQL, PHP, eZ-publish, Apache Web Server, Linux operating system) and is described in the chapter "Technical solution".

For the convenience of visitors, many features have been implemented. The system is multilingual. The first edition is English, Czech, German and Slovenian. Further languages will be added. A versioning system stores your information. A Glossary provides definitions and translations. However, the system is quite technical. To prevent visitors from getting lost in depths of the system, a virtual assistant guides them through the expert system. The assistant's name is IPAM Joe. He is a helpful, friendly person and is at the visitor's disposal to provide any information.
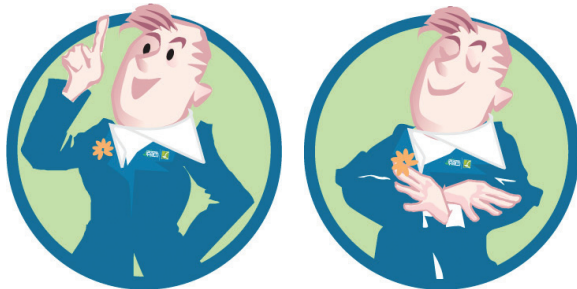
Figure 6: IPAM Joe - the virtual assistant of the IPAM Toolbox. He is at the visitor's disposal for any information. His personality and name are based on a real person who proved to be the spirit of the project IPAM.

Figure 7: The IPAM Toolbox – make use of it! The expert system provides information free of charge. The know-how can be accessed for planning, managing and consulting purposes, but also for research and training.

Figure 8: Protected Areas in Central and Eastern Europe. Managing Protected Areas has become a complex task. The IPAM Toolbox is a platform for the exchange of information, experience and best practice.

Conceptual Solution

As has been pointed out above, the mass, sometimes the confusion of available information can be overwhelming. Therefore, expert systems in general and the IPAM expert system in particular are built up in order to provide precisely focused information only. The IPAM Toolbox consists of three components.

- *Self-assessment.* In a self-assessment procedure, filters are set up in order to primarily eliminate information that is irrelevant for the situation and to (later) rank information by importance. A major "side-effect" of this self-assessment process is a clear positioning of the Protected Area in different fields of activity. In the life-cycle of a Protected Area, 25 fields of activity have been identified and described. Through running through an ideal life-cycle (preparation, basic planning, detailed planning and ongoing management), all fields of activity are covered and therefore provide a helpful framework for determining the Protected Area's status. In an interactively guided process, the user of the expert system answers a group of key questions to identify the recent situation and the obvious problems.

- *Knowledge base.* In a comprehensive database, various examples of best practice, in-depth information about literature, projects and available data, as well as links and further expertise, are proposed. The information is automatically ranked by requirements derived from the self-assessment, but also can be individually selected. The content of the knowledge base focuses geographically on Central and Eastern Europe, but also presents international standards and approaches. Information on audio-visual media, best practice examples, reports, studies, projects, as well as people and institutions, are available.

- *Recommendations.* On a general level - yet, naturally, closely corresponding to the recent situation of the Protected Area, the expert system provides a set of recommendations. These are automatically generated by the system. The conceptual structure behind these recommendations is the analysis of the difference between those fields of activity that are needed in the particular situation and those fields of activity that have actually been (well) executed so far. The recommendations are provided in standardised reports. They therefore also enable reporting on the progress of the development or management of the Protected Area (time series). The system's information is illustrated using some examples of best practice and, furthermore, leads to the most detailed information provided in the knowledge base.
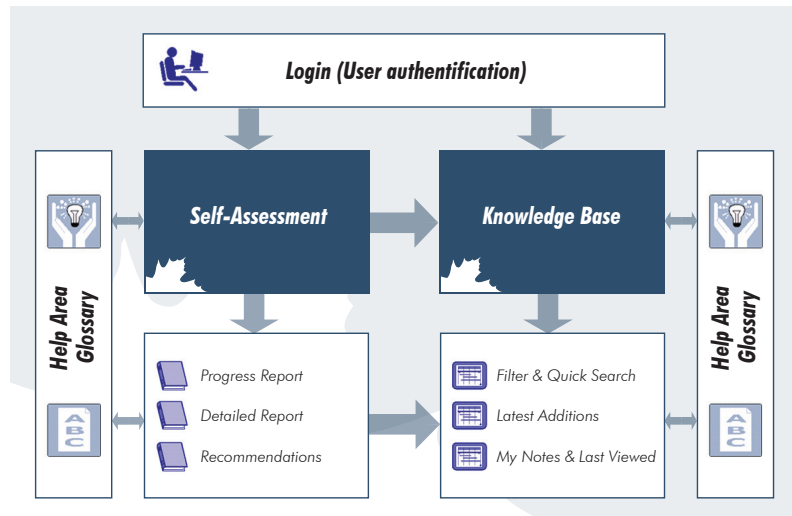
Figure 9: *Overview of the Toolbox structure. Do you already know what you are looking for? In that case, you can directly enter the knowledge base and look for the information by setting filters or through the quick search function. The features "Latest Additions" and "My Notes" are intended for your convenience. If you do not know exactly what you are looking for, the interactive consulting process in the self-assessment will provide different reports and standardised recommendations. When entering the knowledge base, filters are set automatically in accordance with your requirements. Additionally, a Help area and a Glossary support your search.*
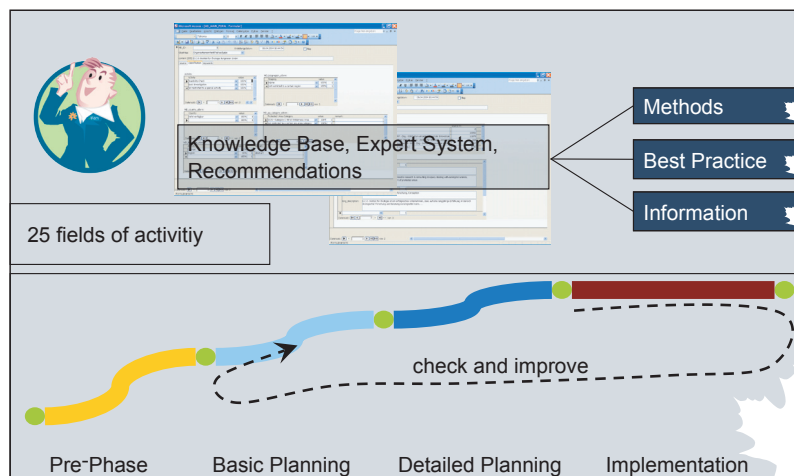

Figure 10: *The life cycle of a Protected Area. The Toolbox shows up with 25 fields of activities. They follow the life cycle of the Protected Area, all the way from a pre-phase, through a planning phase, to an implementation phase.*

Phases		Fields of Activity (FoA)
Pre-Phase		Development of Idea and Vision
		Feasibility Check
		Communication and Participation I
		Incorporation into PA-Systems
Planning Phase	Basic Planning	Planning Handbook
		Communication and Participation II
		Basic Investigation
		Implementation Planning
		Designation and Establishment
	Detailed Planning	Mission Statement and Basic Concepts
		Ecosystem-based Management Plans
		Design of (Regional) Economic Programs
		Specific Planning (Subsidiary Plans)
Implementation Phase		Personnel and Organisational Development
		Evaluating Management Effectiveness
		Financing (Business Plan)
		Impact Assessment and Limitation
		Data and Information Management
		Research Setting and Monitoring
		Communication and Participation III
		Development of Protected Area's Region
		Co-operation Design
		Information, Interpretation and Education
		Visitor Management, Services and Infrastructure
		Marketing and Public Relations

Figure 11: The fields of activity in Protected Area management - an overview. Planners and managers of a typical Protected Area have to run through all the fields of activity. These fields of activity have been developed in close cooperation with international experts and international institutions (IUCN, Europarc, Ramsar Convention, MaB (UNESCO) and are for the first time shown with a comprehensive overview of all obligations included in Protected Area management.

Technical solution

The IPAM Toolbox is based on an Apache 2.0 web server, a widely-used HTTP Server for the internet which runs on a Linux operating system. The clients enter the system with a common web browser. The user identification is implemented at the IPAM portal. The self-assessment and knowledge base are developed with a php application, which is embedded in a HTML code. The content is saved by a MYSQL database.
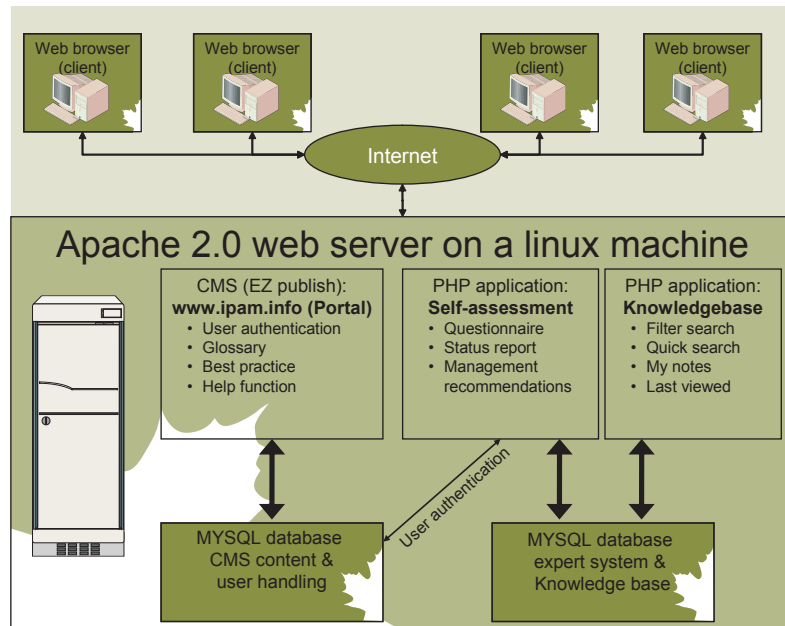

Figure 12: Technical solution of the IPAM Toolbox. For freaks only: the view behind the user´s interface shows the confusing acronyms of the most recent IT tools. The ordinary user should not have to bother with MYSQL and PHP.

MONTAGNA PARK - AN EXAMPLE OF WORKING WITH THE TOOLBOX

When you go through the procedure for the first time, be prepared to invest about two hours in order to understand and test the features. You will be guided through the IPAM Toolbox by IPAM Joe, our virtual assistant. He will welcome and support you in using all features of the system. His service is of particular importance when you enter the expert system for the very first time.

You won't know Montagna Park. It is a fictional Protected Area, invented only to demonstrate the content and functionality of the IPAM Toolbox. Our test Protected Area has the following attributes:
- Name of the site: Montagna Park
- Protected Area category: IUCN cat. II
- Country: Austria
- Biogeographic region: Alpine
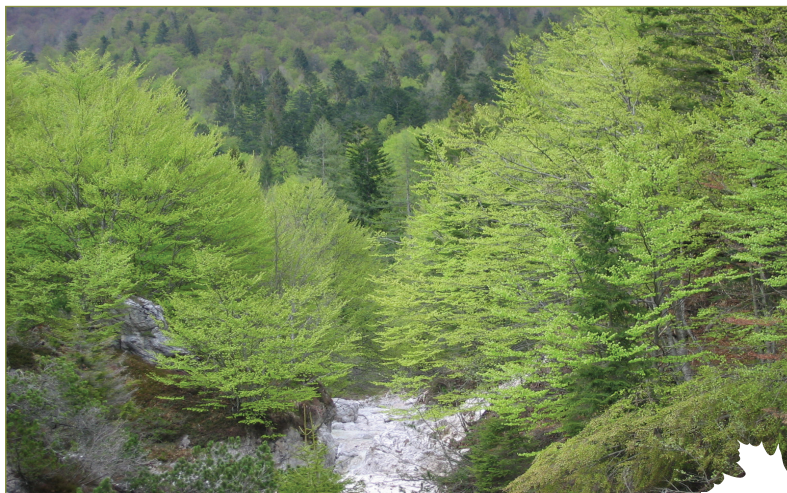
Figure 13: Montagna National Park. This early summer beech forest symbolises a fictional Protected Area that was only invented to demonstrate the features of the Toolbox.

Entering the System

The IPAM Toolbox is embedded in the IPAM Homepage at the following uniform resource locator: **http://www.ipam.info/**

It is only possible to enter the system after logging in at the IPAM portal. When you enter the Toolbox for the first time, you have to sign up for a user name and a password. After filling in the registration data and confirming it by answering an automatically generated e-mail, you will receive your identification number. With this data, you have full access to the expert system and other services at the IPAM portal.

Register user

First name
Max

Last name
Musterfrau

User account
User ID

1470

Login
max

E-Mail
m.musterfrau@mail.c

Password
******

Confirm password
******

[Register] [Discard]

Figure 14: User registration. The first time you enter the expert system, you have to sign up. This gives you full access to all features of the system.

As noted before, the two main components of the IPAM Toolbox are the self-assessment and the knowledge base. For both tools, you create your personal user profile. This gives you full access to all entries and results that you have already worked out, when you re-enter the system. So you start a new Toolbox session at the status of the previous one.

The user profile contains the following data:
- First and last name
- Address, city code and city
- Country (pull-down list)
- Language (pull-down list)

The data must be filled in only the very first time you enter the IPAM Toolbox. On subsequent occasions, identification will occur automatically through logging in at the IPAM portal. The user profile can be edited at any time. *All information is strictly confidential and is only collected for your own or other users' convenience and / or security.*

Profile

To manage your self assessment the data below is needed

Firstname
Max

Lastname
Sample

Language
English

Address
Sample Street 123

City Code
6020

City
Innsbruck

Country
Austria

Figure 15: Creating the user profile. Identify yourself and you will find all your previous versions properly stored. You will find your name on all reports. You may be sure that all information will be kept strictly confidential. The system provides a high level of security.

After creating the user profile, the self-assessment for our example, Montagna Park, can begin. Therefore, a profile for the site has to be created. Four kinds of information should be entered:

- Name of the Protected Area
- Protected Area category (pull-down list)
- Biogeographic region (pull-down list)
- Country (pull-down list)

New site	
Title	Montagna National Park
Category	IUCN Category II: National Park
Biogeographic Region	Alpine
Country	Austria
Cancel Save	

Figure 16: Creating a site profile. It is important to understand that the system is mainly to be used for individual sites (not for systems comprising several Protected Areas). By selecting these attributes, you set the filters for further processing.

The data that was entered into the site profile will be used as filter criteria for further processing (knowledge base). Each Protected Area has a specific combination of attributes. A ranking tool will use this combination to find the most relevant information. Therefore this "early" filter is integrated in the expert system. So you will be provided with very specific and focused information during the online consulting process. In our example, the Montagna Park is an Austrian National Park in the Alpine biogeographic region. In the knowledge base, information from other Alpine National Parks in Austria will be ranked first amongst all further results.

If you are responsible for more than one Protected Area, you can create as many site profiles as you like. In the self-assessment area, the name of the site is always displayed at the top of the page to offer orientation. So, it is recommended that you enter a meaningful / clear name for the site. If you are involved in a planning process, you may also give an interim name to the site. You can edit / renew the site profile at any time.

Some 20 categories of Protected Areas can be selected in the expert system. The system refers to all important international and European categories. The high diversity of national legislation / categories cannot be taken into account. It is recommended to create a new site profile for each Protected Area category.

*A **biogeographic region** is an area of the earth that is determined by its distribution of flora and fauna. Within the European Community, 11 different regions are classified. The biogeographic region must also be selected as a filter for the knowledge base.*
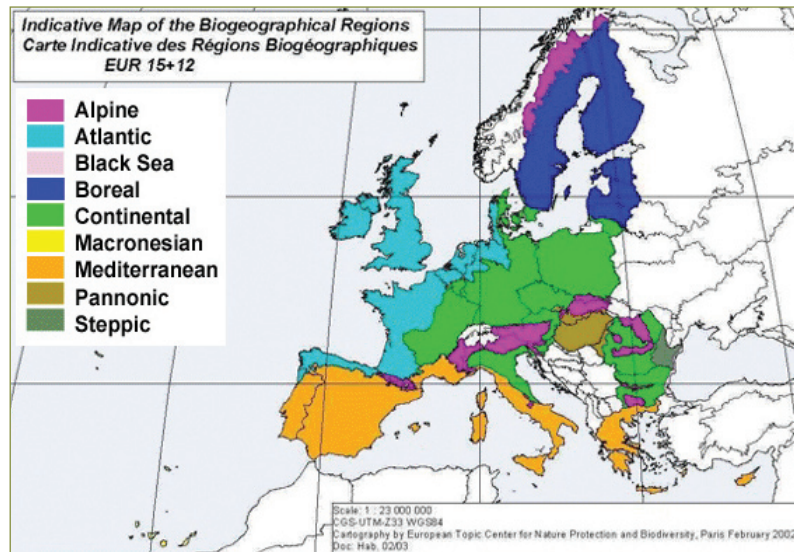

Figure 17: Biogeographic regions in Europe. Natural conditions differ according to region. Select the region of your Protected Area to receive focused information (Source: European Environment Agency 2005).

Selecting the country is the final task when creating the site profile. Countries anywhere in the world may be selected. Countries with similar political, economic and cultural conditions as the one entered will be ranked first in the knowledge base. Due to a stringent concept, you can only select one country. For transborder Protected Areas, we suggest establishing two site profiles.

The site profile can be edited at any time. Modifications of the site profile have a direct effect on the research results.

Self-assessment

Would you like to know about your recent performance in planning or managing your Protected Area? Would you like to precisely name, identify and specifically define your problem(s)? Do you want to know what information is provided by the Toolbox for your specific situation? Then we recommend going through the process of the self-assessment.

The self-assessment has the following aims:

- to identify the recent state (phase / field of activity) of your Protected Area
- to open a direct route to suitable, condensed information (knowledge base)
- to enable you to make a comparison with previous stages in the development of your Protected Area or with other Protected Areas
- to gain an overview of all required activities and, on this basis, to plan and evaluate your further activities (improving management effectiveness)

As mentioned above, the management of a Protected Area has been divided into three phases and 25 fields of activity. The phases follow the life-cycle of a Protected Area and differ fundamentally with regard to structure, requirements and activities:

- **Pre-phase:** In this phase, the very first attempts to establish the Protected Area are made. In previous decades, the ideas were quite often instruments to prevent large-scale projects (like industry, roads, etc.). Nowadays many ideas evolve in the context of regional development. Anyway, this early stage is embedded in an unclear situation, within an unstable framework and – usually – in fundamental debates. Roughly estimated, only one out of three ideas survives this phase. Only this can lead to the next step, the planning phase.
- **Basic planning:** It is in this phase that all those activities are pooled which lead to the final establishment of the Protected Area. At the conclusion of this phase, the Protected Area is legally established and / or certified by an (inter-)national label. Covering as they do sometimes hundreds of km^2, Protected Areas have to be considered as comprising one of the most extensive planning processes in any modern society. Thanks to existing standards and experience, the basic planning phase can be structured quite clearly.
- **Detailed Planning:** In this phase, all those planning activities are carried out which go beyond the implementation of the Protected Area and focus on the demands of conservationists, visitors and stakeholders. Detailed planning is an ongoing process that is closely linked to the ongoing management of the Protected Area.
- **Implementation:** In this phase, all the activities of the existing Protected Area are carried out.

The assessment may be started at any phase. If you represent a "young" site or do not know exactly into which phase your Protected Area may fit, it is recommended that you start the assessment with the first phase (pre-phase) and the first field of activity. You may find some fields of activity which you have never thought about, and which are causing problems in your specific situation.

When going through the self-assessment, you answer cross-checking questions. You will find your status with regards to phases and fields of activity shown by a percentage value and by traffic lights. If all the requirements have been fulfilled, a percentage value of 100% and a green traffic light are displayed. The visualisation of the processing status of the phases and fields of activity is prepared in a user-friendly way.
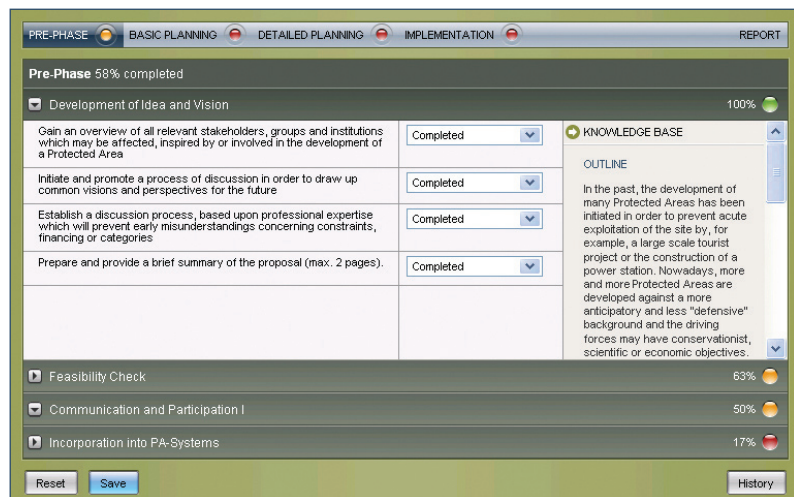
Figure 18: *Self-assessment of Montagna Park. The Toolbox interface shows the pre-phase in Montagna Park in progress (yellow light). The other phases have not started yet (red light). All actions of the field of activity Development of Idea and Vision have been completed.*

The smallest entities in the IPAM Toolbox are actions. Three to six actions form a field of activity. You consider the actions of the field of activity to be:
- not started
- started
- completed

The Toolbox calculates an index between 0% and 100% to indicate how much of your field of activity has been completed so far. The calculation of this index will be accomplished by a matrix in the background.
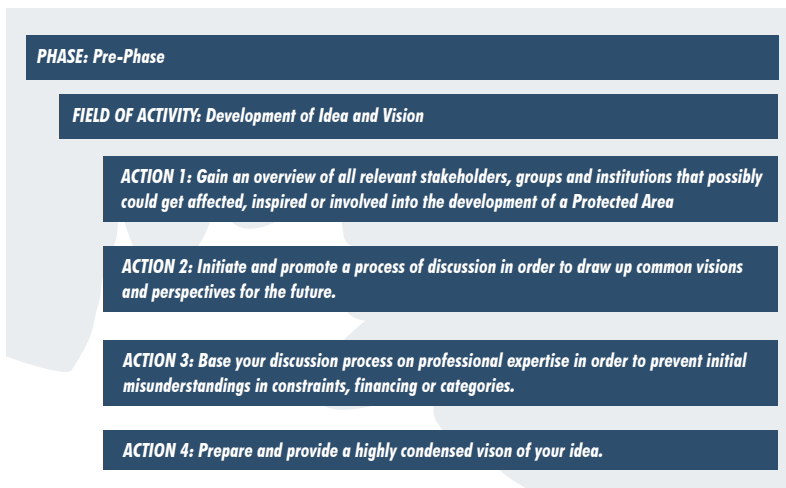
PHASE: Pre-Phase

FIELD OF ACTIVITY: Development of Idea and Vision

ACTION 1: Gain an overview of all relevant stakeholders, groups and institutions that possibly could get affected, inspired or involved into the development of a Protected Area

ACTION 2: Initiate and promote a process of discussion in order to draw up common visions and perspectives for the future.

ACTION 3: Base your discussion process on professional expertise in order to prevent initial misunderstandings in constraints, financing or categories.

ACTION 4: Prepare and provide a highly condensed vison of your idea.

Figure 19: Example of the structure of the self-assessment. The Toolbox segments the management of a Protected Area into 3 phases, 25 fields of activity and 86 actions. Through evaluating fields of activity and actions, you receive an overview of your activities and your performance as planner or manager of the Protected Area.

You go through the self-assessment step by step. For each field of activity a description (function and outline) and additional information are available to the right of the assessment interface. When moving on to the next field of activity, press the button **Save** at the very bottom of the user interface. Your calculation will be updated and your data will be stored. So the assessment process can be interrupted or continued at any time.

Reporting

After running through the self-assessment, a report shows the results of the consulting process in the form of a summary. Three versions are available:

- **Progress Report:** Overview of the state of progress (aggregate information on your activities)
- **Detailed Report:** Overview of your answers (to check, discuss or store your answers)
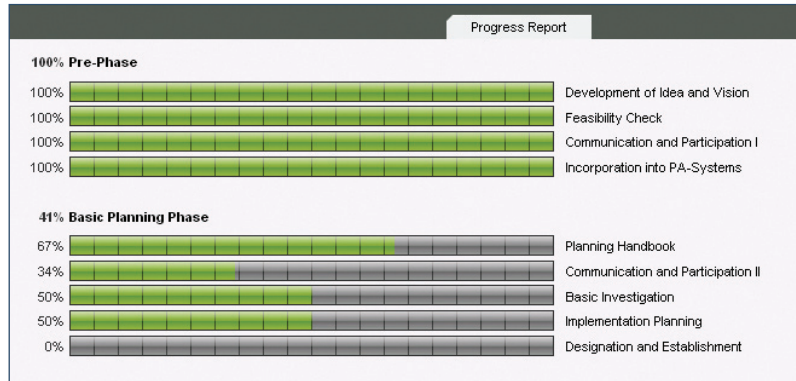- **Recommendation Report:** Set of standardised recommendations as a focal output of the self-assessment

Progress Report

100% Pre-Phase

100%	Development of Idea and Vision
100%	Feasibility Check
100%	Communication and Participation I
100%	Incorporation into PA-Systems

41% Basic Planning Phase

67%	Planning Handbook
34%	Communication and Participation II
50%	Basic Investigation
50%	Implementation Planning
0%	Designation and Establishment

Figure 20: Progress Report. This reporting feature gives an overview of your activities (phases and fields of activity). Their status is displayed by a bar graph and a percentage value. If all the actions of a field of activity have been completed, the bar graph shows a percentage value of 100%.

Detailed Report

BASIC PLANNING PHASE

COMPLETED	STARTED	NOT STARTED	
			Planning Handbook
■			Outline the "big picture" of all questions, disciplines and planning aspects and identify core aspects, less importants aspects and "decorative" aspects
	■		Draw a scheme of all bodies and institutions involved in the planning process. Clearly separate managerial, operating and controlling bodies
	■		Give a comprehensive documentation of the technical standards (computing and storing data, structure of results, interfaces) in order to facilitate homogeneity of results and to guarantee proper synthesis
			Communication and Participation II
	■		Mindmap all stakeholders and visualize their distance and their (expected) acceptance in order to identify the "key players"
	■		Draw a comprehensive figure of all (relevant) stakeholders and their interfaces to the planning process
		■	Invite the stakeholders involved to establish criteria for transparency in the process and always keep these criteria in your mind
	■		Provide regular news (eg. newsletter) and give space to all kind of comments and contributions

Figure 21: Detailed Report. This reporting feature shows a more in-depth view of the processing status of the actions. A green quadrangle marks the status: completed, started, or not started.

The Recommendation Report lists all the tasks which should be considered in the further development process of the Protected Area. If the status of all actions of a phase has been evaluated as completed, no tasks will be listed for this phase. The priority status of the action shows the present processing status. A high priority status involves an urgent call for action for the task. By clicking on one of these tasks, more information about them will be shown in a new window. More information about the recommendations is available in the chapter "Additional Information".
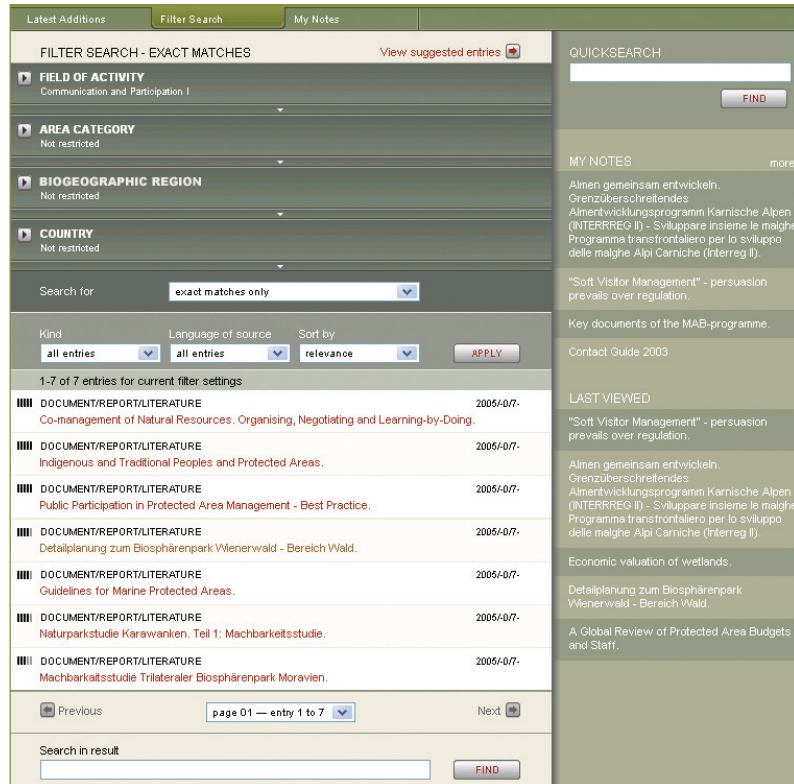
		Recommendations
Phase	Detailed Planning Phase ▾	

Field of Activity	Recommended Action	Priority
Mission Statement and Basic Concepts		
	The site´s mission	high
	The site's apperance	normal
Ecosystem-based Management Plans		
	Priorites and measures	normal
	Success criterions	normal
	Communication of the plan	normal
Design of (Regional) Economic Programmes		
	Impulses for investment	normal
Specific Planning (Subsidiary Plans)		
	Interface specific plans	high

Figure 22: Recommendation Report. Highly standardised, but helpful: the system provides recommendations that refer to your requirements. The suggested tools are named, described and prioritised. All recommendations are to be understood as very general suggestions and have to be adapted to the individual situation. To do this, refer to the knowledge base.

Knowledge base

The knowledge base is a comprehensive database with information about the management of Protected Areas. Best practice, literature, projects, links and further expertise can all be found in the knowledge base. When entering the base from the self-assessment, you will find your information automatically ranked. You can also perform an individual search: just set the filters individually or enter a keyword for the quick search function.

Figure 23: The interface of the knowledge base. In our example the field of activity is the only filter that was chosen. All information that matches Communication and Participation I, the early communication processes, is filtered equally. The bars on the right symbolise the match. When coming from the self-assessment, filters are set automatically, but you can edit them individually, according to your requirements.

The search can be made more detailed by setting additional filters (Protected Area category, biogeographic region and / or country). The matches can also be ranked according to:
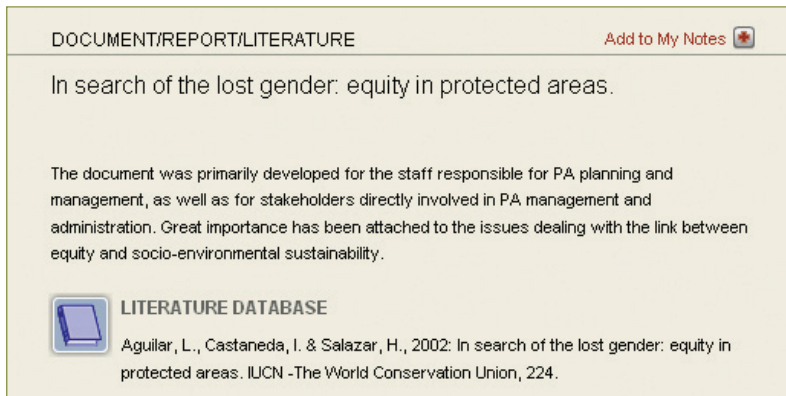- *Type*
- *Language*

The following types of sources are available:
- *audio-visual media*
- *best practice*
- *data collection/data base*
- *document/report/literature*
- *GIS/cartography, personnel/organisational unit*
- *project/programme*
- *service/application/information system.*

You also may choose the preferred language of the matches using a drop-down field. The results can also be ranked by relevance and date of entry. You can visualise the latest entries with the feature **Latest Additions** at the very top of the page. You can also rank the entries by type of source. The types of entry available in the knowledge base are listed above.

By clicking on the search results, you open a new window with detailed information about the entries. Detailed descriptions of the subjects, references, address information and links are displayed. The subjects last viewed are displayed in the right-hand field of the knowledge base.

DOCUMENT/REPORT/LITERATURE   Add to My Notes ✚

In search of the lost gender: equity in protected areas.

The document was primarily developed for the staff responsible for PA planning and management, as well as for stakeholders directly involved in PA management and administration. Great importance has been attached to the issues dealing with the link between equity and socio-environmental sustainability.

LITERATURE DATABASE
Aguilar, L., Castaneda, I. & Salazar, H., 2002: In search of the lost gender: equity in protected areas. IUCN -The World Conservation Union, 224.

Figure 24: Detail of an entry in the knowledge base. At the most detailed level of information, an abstract and the source of information are provided. If available, the original documents can be downloaded. The function "Add to my Notes" provides a convenient working memory of selected information.

There is also the option of marking some entries for later viewing. A list of these entries is available on the main page under **My Notes**. By clicking on the register at the very top of the page, you activate the detailed documentation of your personal choice. In this window you can sort the notes, remove them from the list or export them.

MY NOTES	Export ➡
1-3 of 3 entries	
PERSONNEL/ORGANISATIONAL UNIT	2005/-0/4 (added on 2005/-0/6-)
IUCN - The World Conservation Union.	
❌ Remove	
DATA COLLECTION/DATA BASE	2005/-0/4 (added on 2005/-0/6-)
Key documents of the MAB programme.	
❌ Remove	
DATA COLLECTION/DATA BASE	2005/-0/4 (added on 2005/-0/6-)
Contact Guide 2003	
❌ Remove	

Figure 25: The feature "My Notes". Create your individual list of search results by adding them to "My Notes". In this window you can collect, remove or export specific entries in the knowledge base.

Additional features are a **search in the results** option (ranking within the ranking) and a **quick search** function, which enables you to check the whole knowledge base for terms or keywords.

Additional Information

The following contents are available as additional information within the IPAM Toolbox:

- Recommendations
- Best practice
- Help area
- Glossary

When entering from the self-assessment, a detailed description of the recommendations is available through activating Recommendation Report. The report contains a short abstract with the core information, a description and – if available - one or more illustrations.

Communication and participation I

Communication design

Specify the target groups (check completeness at least three times) and make up order and mode of communication (It is impossible to overestimate the importance of personal meetings)
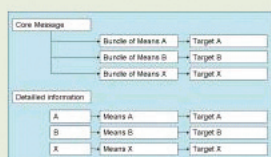
Visualisation of communication design.

To enlarge click on the picture...

The means / bundle of means have to be chosen with regards to the target groups. At this stage of discussion it is better to use existing networks, structures and media than to establish new. A clear distinction has to be made between a core message relevant for all and specific information only relevant for specific interests. People should not be drowned in information. The detailed information may be distributed by sectoral or regional requirements.

Figure 26: Recommendation Report of the IPAM Toolbox. The example shows a recommendation for the action called Communication Design, which is embedded in the field of activity Communication and Participation I. The report is intended to give a general idea of an activity, which must then be adapted to the specific situation.

Best practice presents and illustrates good solutions for dealing with specific problems. The best practice is linked to the fields of activities. The information was collected from different Protected Areas in Europe by means of an evaluation of an international inquiry and interviews with experts. The link to best practice can be activated in the knowledge base.

Planning Handbook

Planning Directive "Gesäuse National Park" - sketching the future time and effort for the planning process

Gesäuse National Park

Nation/province: Austria/Styria
Contact: Gesäuse National Park – Administration
Email: info@nationalpark.co.at
Protected area category: IUCN-Category II
Area (hectares): 11,054.00

Background:

The regional society responsible for the establishment of the mountainous "Gesäuse National Park" in Styria decided to charge a planning team with the elaboration of a Planning Directive. An on-going Feasibility Study has affirmed the operability of a National Park in principle. But there was no common agreement on the dimension of future time and efforts necessary for an effective implementation.

Problem/task:

The key issue arising from the intention to start the planning process lay in the complexity of establishing a National Park, which made it difficult for the contracting authority to get an overview of the framework within which the planning process could take place. It is, however, essential to get such an overview, e.g. for tendering procedures.
The following questions indicate the relevant issues:
- what steps, and when, are essential for implementing a national park?
- what level of detail is necessary?
- what should the structure of the planning team look like?
- what are the resource requirements (personnel, timing, finance, technique)?
- what is the appropriate corporate culture?

Solution/approach:

With regard to the issues stated above, the innovative approach was found in the design of a so-called Planning Handbook. This central document provides all relevant cornerstones in order to get an idea of developing the Gesäuse National Park.
Through defining the relevant steps to be carried out, procedures to be applied, resources required and outcomes to be reached, it was possible to gain a holistic overview of the whole planning process.
It comprises the following core components:
- In general: A short description provides an overview of the suggested time-frame, the recommended corporate culture and planning principles.
- Phases and work packages: For the purpose of a clear and manageable approach, the whole cycle of the planning process was divided into a series of phases subdivided again into consistent, standardised work-packages. For each work-package, objectives, outcomes, methodologies, resource uses etc. were then defined giving the framework for further planning.
- Requirements resources: based on the previous chapter, requirements in terms of human resources have been assessed.
- Open points: due to unpredictable circumstances and conditions, a check-list of open points shows which issues may be expected to arise, thus offering the opportunity to influence/change the planning process.
- Technical aspect: a standardised layout aiming for the prospective mapping of spatial-related data has been created.

Duration: 8 months
Year of completion: 2001

Download: 📄 plak00_mj_b6.pdf   551.83 kB

Source/reference:

Literature: Jungmeier, M. Werner, K. & Kirchmeir H. 2001: Nationalpark Gesäuse: Planungsleitfaden.

Expert: FRANEK Werner (DI): Nationalpark Gesäuse

Figure 27: Example of best practice in the IPAM Toolbox. The standardised structure of the report provides background, problem / task, solution / approach and technical aspects (duration, year, and source). Possibilities for downloading information endorse the best practice example.

The help area guides the user through the IPAM Toolbox. It can be accessed using the **Help** button at the very top of the site. The virtual assistant, IPAM Joe, explains functions, most important elements, handling and frequently used terms. Every single button which can be activated at the user interface is described and explained. Screenshots of the selected site support the illustration.

Figure 28: Help area in the IPAM Toolbox. Your virtual assistant, IPAM Joe, is on your disposal for any information. Follow him to find the user's interface described in detail.

The glossary is an alphabetical list of technical terms. The glossary provides more in-depth explanations than would customarily be provided by dictionary definitions. Translations of an English term into other languages, a brief definition and one or more definition sources are included in the definition.

Figure 29: Glossary. The Toolbox makes it easy to find the right words. The official definition of a term and the translation into different languages are available in the glossary.

MAKE USE OF THE IPAM TOOLBOX

The Toolbox is a newly-developed high-tech instrument for sharing experiences and information on the integrative management of Protected Areas. Although the "house" has (so to speak) been built, it still needs to be filled with life. The more people make use of the Toolbox, the more useful it will become. So feel free to use the Toolbox in your everyday work.

- *Share your results / experiences: if you have any information to share, do not hesitate to upload it to the knowledge base. Your information will be reviewed and then published in the knowledge base.*
- *Look for specific information: search the knowledge base if you are in need of specific information.*
- *Check for new developments: search the knowledge base for recent information (rank by date of entry).*
- *Check the success of your Protected Area: evaluate the progress of your Protected Area by going through the self-assessment at regular intervals.*
- *Base the process of discussion on the self-assessment: the cross- checking questions in the self-assessment can form the base for a continuous process of discussion in your Protected Area.*
- *Make use of the additional features: order the newsletter, post your announcements and visit the chat room (not available yet).*
- *Document and report any problems: the Toolbox is – of course – work in progress. If you have any complaints or recommendations, do not hesitate to contact the Toolbox team: expert@ipam.info.*
- *Become a Toolbox partner: by contracting with the IPAM team (represented by: the Government of Carinthia) you may add non-commercial features, services or additional languages to the Toolbox. For information contact: expert@ipam.info.*

FUTURE PROSPECTS

"Experience grows through being shared". *The IPAM Toolbox aims to be a central platform for information on the integrative planning and management of Protected Areas. The system is to be kept free of charge. Therefore, mainly open source technologies are used. Also the handling of data and information follows open source philosophies: the uploading and downloading of data is done on a strictly non-commercial basis. The Toolbox is to be sustained and enhanced by a network of partners. These may be institutions dedicated to planning, researching, educating or managing Protected Areas.*

One of the first partners to join the network was the University of Klagenfurt. An MSc course in the "Management of Protected Areas" (www.mpa.uni-klu.ac.at) uses the Toolbox as the main support instrument for a two-year postgraduate course of studies. Participants from some ten countries will learn how to make use of the Toolbox and will enter further information into the system. The Toolbox will improve through use.

Furthermore the IPAM Toolbox is to be linked to the worldwide expert system PALNet. The Protected Areas Learning Network (PALNet) is an interactive, web-based knowledge management tool for Protected Area managers and stakeholders, developed and run by IUCN. The intention is to enable Protected Area managers, policy makers and stakeholders to adapt their policies, strategies, and practices to anticipate the threats to Protected Areas and, at the same time, to take advantage of new opportunities. The IPAM Toolbox aims to become the European component of this system.

ipam integrative protected area management

ANNEX

Instruction manual

STEP 1

Visit http://www.ipam.info and selcect the menu tab **expert system**

STEP 2

Create a new user account or log in if your account already exists and select **self-assessment**

STEP 3

Set your preferences (country, language, etc.) and create a site profile for the Protected Area you are managing

STEP 4

Select the site and click on **Edit**

STEP 5

Go through all fields of activity starting with Development of Idea and Vision in the pre-phase and select the status in the drop-down box. Click on **Save** before changing the phase or leaving the screen

STEP 6

After saving your input, check if the percentage of progress has changed. Select **Report** to print the actual processing status or to obtain recommendations thorugh the expert system

STEP 7

To get more information about the edited fields of activity select **knowledge base** in the fields of activity title bar. The screen is changing to the knowledge base interface

STEP 8

In the lower right field you can find information about the selected fields of activity. You can restrict the results by selecting additional filters (country, language etc.) and clicking on **Apply**

STEP 9

Select the result you are interested in from the list. You will get a short description of the content and where to find this information (citation, adress, internet link)

STEP 10

If you find this information useful, add it to **My notes**

STEP 11

Proceed with other fields of activity

References

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ANNEX

www.ipam.info