

Organisation

CURSA University Consortium for Socioeconomic and Environmental Research, University of Molise and Lands srl – Expert Network for Sustainable Development.

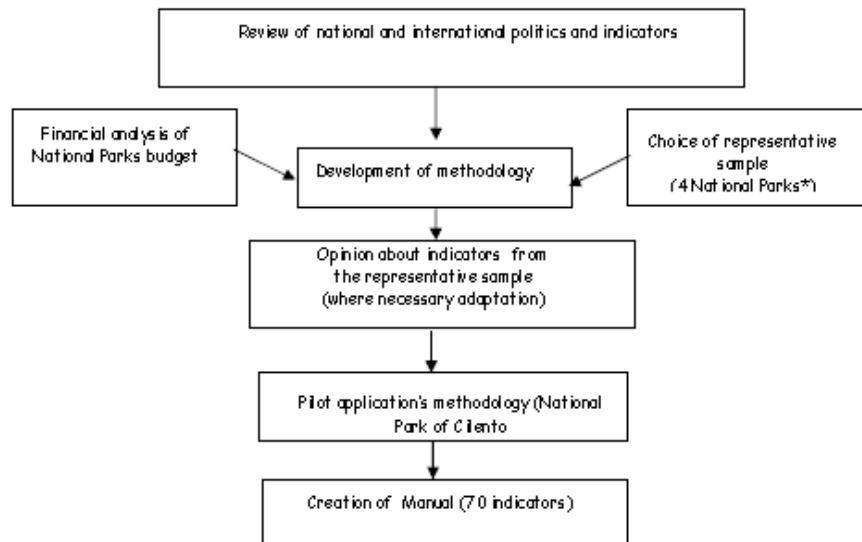
Primary methodology reference

Banini S., Marino D., Lumaca C., Addis D., Alborino N., Marucci A., Palmieri M., Parasacchi A., Soffiotti E., Zaottini D., Zarlenga G. (2006) “ Assessment of Protected Areas Management Effectiveness” Report phase n°1.

Brief description of methodology

The aim of MEVAP (Monitoring and Evaluation of Protected Areas) methodology is to assess and monitor protected areas management effectiveness through a set of indicators. The method developed for the Italian protected areas takes into account the instructions and recommendations from national and international policies on biodiversity and sustainable development (General policy law n° 394, CBD, etc.).

Path to work



*Gran Paradiso, Dolomiti Bellunesi, Majella, Cilento Vallo di Diano National Parks

MEVAP allows:

- ✓ A macrolevel assessment of protected area management: the achievement of national goals and objectives in observance of international treaties and national strategies
- ✓ A microlevel assessment of protected area management: developing methods and criteria in order to diffuse Best Practice arising from the assessment of local management system

The evaluation of management effectiveness is achieved by the assessment of a set of selected indicators.

The criteria used for selecting indicators are:

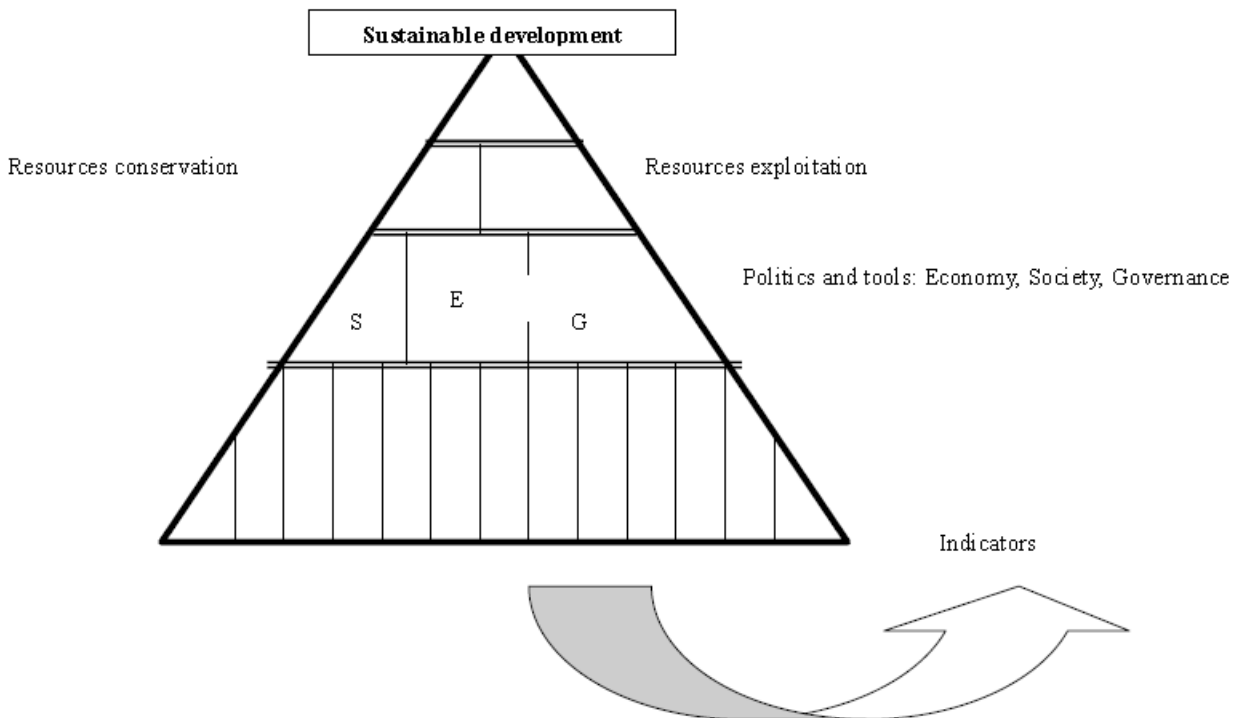
- ✓ Ease of collection
- ✓ Quantification
- ✓ Representativeness
- ✓ Scientific relevance
- ✓ Transferability

Indicators are associated with 4 domains: Environment, Economy, Governance, Society. Every domains is related with macroobjectives and topics. Successively the methodology has been adapted to IUCNWCPA framework (see paragraph on elements and indicators).

Exemple:

Domain	Macro-objective	Topic	Indicator
Environment	Resource Conservation (CBD)	Bio-diversity	Levels of threat to animal species
Economy	Reconversion of productivity and promotion of sustainable activities (L. 394/91)	Δ+ products with quality certification	Presence of trademark
Governance	Development of economic management capacity	Park as a generator of creative projects	Promotion of international co-operation
Society	Access and benefit-sharing of genetic resources (CBD)	Access to benefits	Local residents' perception of benefits

Theoretic Model



The triangle shows the hierarchical order among elements of Sustainable Development referring to Protected Areas. Conservation and Resources Exploitation can be effected and can interact with Society, Economy and Governance, put under them. On the top there is Sustainable Development meant as the synthesis between two trends, Resources Conservation and Resources Exploitation.

Society, Economy and Governance are Sustainability management tools able to generate processes affecting its evolution. For this reason the assessment of PA management effectiveness must take into consideration the maintenance of biodiversity without neglect social, economic and governance aspects and as well as human needs.

Purposes

- ✓ to improve management (adaptive management) primarily at a microlevel and afterwards at a macrolevel widening the range of the study to a National Park network at a system level.
- ✓ for accountability/audit
- ✓ to raise best practices and support to Protected Areas authorities

Objectives and application

MEVAP is a scientific tool designed to be flexible and accessible to different needs and context. It is made up of a wide range of 70 indicators which have been divided in core and supplementary. The set of indicators can be adapted and used in different circumstances and context:

Evaluation or selfevaluation of protected areas management effectiveness

- ✓ To provide support for Best Practice diffusion
- ✓ Supporting different environmental procedures and programs like ISO 14001, The EU EcoManagement and Audit Scheme (EMAS) and Agenda 21 or State of the Environment Reports.
- ✓ In sectorial studies concerning protected areas (tourism, agriculture, etc.)
- ✓ Supporting procedures for Environment Balance and/or Sustainability Balance

Origins

The General Directorate “Nature Protection” of The Ministry of the Environment and Territory charched CURSA University Consortium for Socioeconomic and Environmental Research, University of Molise and Lands srl – Expert Network for Sustainable Development with workingout a plan to assess the Italian National Parks in order to fulfil obligations under CBD’s Programme of Work on Protected Areas (goal 4.2To evaluate and improve the effectiveness of protected areas management).

Strengths

- ✓ High information details
- ✓ Possibility to evaluate Park management effectiveness in relation to the context
- ✓ A lot of data are objective and quantitative. Their information retrieval are official and outside the Park Authority. Because of these reasons the data are useful to a selfevaluation.
- ✓ The methodology is set out in high number of indicators and related index and can be applied to different needs and context (see paragraph on objectives and application).

Constraints and weaknesses

- ✓ the information retrieval can be complex and expensive
- ✓ the information retrieval can be not updated and/or not reliable in territorial scale
- ✓ Sometimes the data analysis and evaluation can be not effective because of unavailability of historical series

How the methodology is implemented

The work is in progress. MEVAP’s team is assessing Cilento Vallo di Diano National Park, Gran Paradiso National Park and Circeo National Park but the aim of the project is to develop an evaluation of the wide Italian National Parks. Taking into account the nature of methodology (flexible and accessible to different needs)MEVAP can be also implemented in different kind of protected areas (marine reserves, etc).

MEVAP: Indicator

<i>Domain</i>	<i>Macro objective</i>	<i>Topic</i>	<i>Indicator</i>
Environment	Conservation resources (CBD)	Biodiversity	Floristic richness
Environment	Conservation resources (CBD)	Biodiversity	Faunistic richness
Environment	Conservation resources (CBD)	Biodiversity	Fichness of vegetation
Environment	Conservation resources (CBD)	Biodiversity	Natura 2000 network
Environment	Conservation resources (CBD)	Biodiversity	Level of threat to vegetable species
Environment	Conservation resources (CBD)	Biodiversity	Level of threat to animal species
Environment	Conservation resources (CBD)	Biodiversity	Level of threat to Habitats
Environment	Conservation resources (CBD)	Biodiversity	Botanical garden
Environment	Conservation resources (CBD)	Biodiversity	Faunistic Area
Environment	Conservation resources (CBD)	Water Resources	Surface waters quality
Environment	Conservation resources (CBD)	Water Resources	Groundwaters quality
Environment	Conservation resources (CBD)	Water Resources	Marine and costal waters quality

Environment	Conservation resources (CBD)	Forest Resources	Wooded fire
Environment	Conservation resources (CBD)	Forest Resources	Forest area condition and quality
Environment	Conservation resources (CBD)	Landscape	Level conservation landscape
Environment	Conservation resources (CBD)	Genetic Resources	Collection and germplasm bank and/or conservatory
Environment	Conservation resources (CBD)	Genetic Resources	Genetic variation in agriculture and in zootechnics
Environment	Conservation resources (CBD)	Soil and subsoil	Fragilità geologica del territorio

<i>Domain</i>	<i>Macro-objective</i>	<i>Topic</i>	<i>Indicator</i>
Economy	Reduce effects of human activities	Δ - Impact on resources	Forest resources exploited
Economy	Reduce effects of human activities	Δ - impact on resources	Soil exploitation
Economy	Reduce effects of human activities	Δ - impact on resources	administrative sanctions
Economy	Reduce effects of human activities	Δ - impact on resources	Agriculture pressure in the environment
Economy	Reduce effects of human activities	Δ - impact on resources	Sewage purification capacity
Economy	Reduce effects of human activities	Δ - impact on resources	Tourist intensity
Economy	Reduce effects of human activities	Δ - impact on resources	Production of urban solid waste
Economy	Reduce effects of human activities	Δ - impact on resources	Proximity of sites at risk of incident
Economy	Reduce effects of human activities	Δ - impact on resources	Pressure from road infrastructure
Economy	Reduce effects of human activities	Δ + Carbon efficiency	Consumption of energy
Economy	Reduce effects of human activities	Δ + Carbon efficiency	Sustainable mobility
Economy	Level of use (sustainability of resource use CBD)	Water resources	Intensity of water exploitation
Economy	Conversion productive activities and promote activities compatible (Park laboratory - l. 394/91)	Δ + Green economy	Local products
Economy	Conversion productive activities and promote activities compatible (Park laboratory - l. 394/92)	Δ + Green economy	Separate collection of household waste
Economy	Conversion productive activities and promote activities compatible (Park laboratory - l. 394/93)	Δ + Green economy	Farms and zootechnical enterprises agreeing to environmentally friendly measures and which practise organic farming
Economy	Conversion productive activities and promote activities compatible (Park laboratory - l. 394/94)	Δ + Green economy	Energy production through alternative energy resources
Economy	Conversion productive activities and promote activities compatible (Park laboratory - l. 394/95)	Δ + Green economy	Energy independence (Park)
Economy	Conversion productive activities and promote activities compatible (Park laboratory - l. 394/96)	Δ + Green economy	Energy production through alternative energy resources - Countries
Economy	Conversion productive activities and promote activities compatible (Park laboratory - l. 394/97)	Δ + Green economy	Enterprises related with the park respect the total of enterprises
Economy	Conversion productive activities and promote activities compatible (Park laboratory - l. 394/98)	Δ + Level of dematerialisation	Production of services and goods with a low intensity of material
Economy	Conversion productive activities and promote activities compatible (Park laboratory - l. 394/99)	Δ + Level of dematerialisation	Energetic intensity
Economy	Positive externalities (<i>in situ/ex situ</i>)	Hydrological balance	Water Balance
Economy	Conversion productive activities and promote activities compatible (Park laboratory - l. 394/98)	Δ + Certified products	Sustainable management from local authorities and local enterprise

<i>Domain</i>	<i>Macro-objective</i>	<i>Topic</i>	<i>Indicator</i>
Economy	Conversion productive activities and promote activities compatible (Park laboratory - l. 394/98)	Δ + Certified products	Presence of trademark
Economy	Conversion productive activities and promote activities compatible (Park laboratory - l. 394/98)	Δ + Certified products	Sustainable wooden production
Economy	Increase social welfare	Δ+ Income	Economic welfare
Economy	Positive externalities (<i>in situ/ex situ</i>)	Δ+ Sink CO ₂	Absorption capacity

<i>Domain</i>	<i>Macro-objective</i>	<i>Topic</i>	<i>Indicator</i>
Governance	Increasing the management capacity territory	Function rate	Administration complexity
Governance	Increasing the management capacity territory	Function rate	Functioning of Park board
Governance	Increasing the management capacity territory	Function rate	Management and planning instruments
Governance	Increasing the management capacity territory	Function rate	Management of AIB service (Antifire wooded plan)
Governance	Increasing the management capacity	Function rate	Management of forest resources
Governance	Increasing the management capacity	Function rate	Management of fauna
Governance	Increasing the management capacity	Function rate	Activity of environment recovery
Governance	increase management territory	Function rate	Reforestation
Governance	increase management territory	Function rate	Indemnification
Governance	increase management efficiency	Function rate	Intervention plan
Governance	Development of economic management capacity	Park as a generator of creative projects	Environmental planning capacity
Governance	Development of economic management capacity	Park as a generator of creative projects	Promotion of international co-operation
Governance	Development of economic management capacity	Park as a generator of creative projects	Funding through planning activities
Governance	Increasing the management capacity territory	Function rate	Bioecological architecture
Governance	Increase management efficiency	Economic efficiency and financial	Staff
Governance	Increase management efficiency	Economic efficiency and financial	Balance indicators about revenue
Governance	Increase management efficiency	Economic efficiency and financial	Indicators on budgetary expenditure
Governance	Increase management efficiency	Economic efficiency and financial	Indicators on fulfilment of legal obligations
Governance	Increase management efficiency	Economic efficiency and financial	Cost to prevent damages from hydrogeological upheaval
Governance	Increase management efficiency	Economic efficiency and financial	Cost to restore damages from hydrogeological upheaval

Elements and indicators

<i>WCPA elements</i>	<i>Environment</i>	<i>Economy</i>	<i>Society</i>	<i>Governance</i>
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<i>WCPA elements</i>	<i>Environment</i>	<i>Economy</i>	<i>Society</i>	<i>Governance</i>
Context	<ul style="list-style-type: none"> Floristics richness Faunistic richness Richness of vegetation Natura 2000 network Level of threat to vegetable species Level of threat to animal species Level of threat to Habitats Surface waters quality Groundwaters quality Marine and costal waters quality Wooded fire Forest area condition and quality Level conservation landscape Genetic variation in agriculture and in zootechnics Territory geologic brittleness 	<ul style="list-style-type: none"> Soil exploitation Agriculture pressure in the environment Tourist intensity* Production of urbansolid waste* Proximity of sites at risk of incident Consumption of energy Sustainable mobility* Pressure from road infrastructure Intensity of water exploitation Local products* Farms and zootechnical enterprises agreeing to environmentally friendly measures and which practise organic farming* Energy production through alternative energy resources* Production of services and goods with a low intensity of material * Energetic intensity Water Balance Economic welfare Absorption capacity* 	<ul style="list-style-type: none"> Growth and population density Social capital quality Quality of life 	<ul style="list-style-type: none"> Bioecological Architecture*
planning				<ul style="list-style-type: none"> Environmental planning capacity Administration complexity Management and planning instruments Indicators on fulfilment of legal obligations
Input			<ul style="list-style-type: none"> Environmental education* 	<ul style="list-style-type: none"> Funding through planning activities Staff Balance indicators about revenue
Process		<ul style="list-style-type: none"> Sewage purification capacity Sustainable management from local authorities and local enterprise 		<ul style="list-style-type: none"> Functioning of Park board National and international cooperation activities Indicators on budgetary expenditure Management of AIB service (Antifire wooded plan) Surveillance and sanction activities

<i>WCPA elements</i>	<i>Environment</i>	<i>Economy</i>	<i>Society</i>	<i>Governance</i>
				<ul style="list-style-type: none"> • Indemnification • Cost to prevent damages from hydrogeological upheaval • Cost to restore damages from hydrogeological upheaval • Intervention plan
Output	<ul style="list-style-type: none"> • Botanical garden • Faunistic Area • Collection and germplasm bank and/or conservatory 	<ul style="list-style-type: none"> • Tourist intensity* • Production of urban solid waste* • Sustainable mobility* • Local products* • Farms and zootechnical enterprises agreeing to environmentally friendly measures and which practise organic farming* • Energy production through alternative energy resources* • Production of services and goods with a low intensity of material * • Enterprises related with the park respect the total of enterprises • Presence of trademark • Sustainable wooden production 	<ul style="list-style-type: none"> • Stakeholders' perception of benefits • Local residents' perception of benefits • Environmental education* 	<ul style="list-style-type: none"> • Management of forest resources • Management of fauna • Activity of environment recovery • Reforestation • Bioecological Architecture*
Outcome	<ul style="list-style-type: none"> • Botanical garden • Faunistic Area • Collection and germplasm bank and/or conservatory 	<ul style="list-style-type: none"> • Absorption capacity* 	<ul style="list-style-type: none"> • Visitors' satisfaction 	

*Some indicators can be valued both as context and as output. They can be put in the output box when the Park promotes (directly or indirectly) projects and activities related with indicators and/or aimed at their achievement. Otherwise they can be put in the context box.

*"Absorption capacity" can be valued both as context and as outcome depending on Park's policy and intervention in this field

*Taking into account the different index of this indicators, "Environmental education" can be valued both as input (index: voluntary camp) and as output (index: doctoral thesis, environmental education centres etc.)