

**Madrid Declaration  
on the UNESCO Man and the Biosphere (MAB) Programme  
and the World Network of Biosphere Reserves (WNBR)**

We the representatives of UNESCO Member States, biosphere reserves, and co-operating public and private sector institutions and civil society organizations gathered at the 3<sup>rd</sup> World Congress of Biosphere Reserves and the 20<sup>th</sup> session of the International Co-ordinating Council (ICC) of the MAB Programme during 4-8 February 2008 in Madrid, Spain,

*Concerned by* the increasing loss of biodiversity, the effects of climate change and demographic changes and convinced of the urgent need to maintain a balance between nature conservation, environmental protection and the social, economic, technical and scientific developments that constitute globalization,

*Recalling* that the sixteenth session of the General Conference of UNESCO (1970) launched the programme on Man and the Biosphere (MAB) as a long-term intergovernmental and interdisciplinary programme that since its inception MAB has focused its research, training, monitoring, education and pilot projects on the search for trade-offs and balance between, on the one hand, the human responsibility to maintain nature and conserve biodiversity and, on the other hand, the human need to use natural resources for enhancing social and economic well-being of peoples,

*Recognizing* that the concept of biosphere reserves developed within the framework of the MAB programme has resulted, since 1976, in the designation, currently numbering 531 sites in 105 countries, that are dedicated to address and learn from efforts to achieve and maintain a balance between the conservation of nature and biodiversity and the socio-economic development of places and peoples,

*Appreciating* the participatory and good management approaches that allow multiple stakeholders and partners to be an integral part of biosphere reserves,

*Acknowledging* that the WNBR created under MAB constitutes a global network of places that Member States of UNESCO can prioritize as locations for testing the applications of sustainable development principles and practices dedicated to establishing and maintaining context-specific and mutually beneficial relationships between nature and biodiversity conservation and socio-economic well-being of people,

*Cognizant of* the fact that the biosphere reserve concept and its applications have, thanks to global reviews and exchange of experience and lessons learned as communicated during the first (Minsk, 1983) and the second (Seville, 1995) Congresses of Biosphere Reserves, been refined and consolidated with respect to its significance to sustainable development at local and regional levels within UNESCO Member States,

*Referring* to the Statutory Framework of the Seville Strategy that outlines the importance of legally constituted core areas devoted to long-term protection according to the conservation objectives of the biosphere reserves, and of sufficient size to meet these objectives,

*Expressing* gratitude to the Ministry of Environment of the Government of Spain for its continuous support to biosphere reserves under the framework of the UNESCO Man and the Biosphere Programme, including by hosting the 20<sup>th</sup> session of the MAB ICC and the 3<sup>rd</sup>

World Congress of Biosphere Reserves (February 2008) convened in Madrid, Spain, with the purpose to reflect upon the experience of implementing the Seville Strategy and the Statutory Framework for the World Network of Biosphere Reserves adopted by UNESCO in 1995,

*Convinced* of the need to strengthen and support the contributions of MAB and biosphere reserve networks to sustainable development in the context of new and emerging challenges and document, disseminate and share lessons learned in the context of the UN Decade of Education for Sustainable Development (UNDESD; 2005-2014):

- *Urge* UNESCO, its Member States and Secretariat, to make optimum use of biosphere reserves for the promotion of sustainable development and the WNBR and associated regional, sub-regional and national networks as forums for exchange of experience and lessons learned during the UNDESD;
  - Encourage UNESCO Member States to establish MAB National Committees where they do not yet exist;
  - *Commit* the Secretariat to review the implementation of the Seville Strategy and make recommendations to improve the working practices of the MAB Programme at the global, regional, national and local levels in order to enhance its relevance to sustainable development policies, planning and implementation at all levels;
  - *Call upon* UNESCO to actively pursue coherent approaches and strengthen cooperation within the UN system, particularly with UNDP and UNEP with the aim to enable Member States to use biosphere reserves as places to demonstrate and promote the achievement of the Millennium Development Goals (MDGs) and other UN targets, such as the commitment of Parties to the Conventions dealing with biological diversity, combating desertification and climate change;
  - *Call upon* UNESCO and international funds for the creation of an innovative mechanism for sustainable funding aimed at reinforcing biosphere reserves, the MAB Programme as well as the regional networks and promote the implementation of the Madrid Action Plan;
  - *Capitalize upon* the potential for action of biosphere reserves to address new challenges such as the loss of traditional knowledge and cultural diversity, demography, loss of arable land, climate change, biodiversity and sustainable development; and, in particular, as places for investments and innovation to mitigate and adapt to climate change, to promote the greater use of renewable energy in sustainable futures of rural and urban areas and to enhance and capitalize upon ecosystem services and products in sustainable development for human well-being;
  - *Build* effective partnerships in biosphere reserves through cooperation among all governmental levels, private sector, mass media, civil society organizations, indigenous and local communities, research, monitoring and education centers and other such institutions for the implementation of the Madrid Action Plan during 2008-2013;
  - *Encourage* cooperation between the MAB Programme and the other Intergovernmental Scientific Programmes of UNESCO, the World Heritage Convention and the One UN pilots;
  - *Promote* MAB and WNBR as global, regional and national fora for involving people and generating new ideas to solve local problems and targeted actions to seek a dynamic and mutually beneficial relationship between People and the Biosphere.
-

# DRAFT MADRID ACTION PLAN

## PLAN STRUCTURE

---

### Background

- A. Emerging challenges and the potential and role of Biosphere reserves in addressing these challenges
  - A.1 Climate change
  - A.2 Provision of ecosystem services
  - A.3 Urbanization as a principal driver for ecosystems-wide pressures
- B. Vision Statement for the World Network of Biosphere Reserves within the Man and the Biosphere (MAB) Programme
- C. Mission Statement for the World Network of Biosphere Reserves within the Man and the Biosphere (MAB) Programme
- D. Progress since Seville
- E. The Madrid Actions - The World Network of Biosphere Reserves
  - E.1 Cooperation, management and communication
  - E.2 Zonation – linking functions to space
  - E.3 Science and capacity enhancement
  - E.4 Partnerships
- F. Approval, implementation and evaluation

### Acronyms

## BACKGROUND

In 1995 an international conference in Seville, Spain, started a new era for the World Network of Biosphere Reserves. The actions decided at that meeting were incorporated in the *Seville Strategy* and the *Statutory Framework of the World Network of Biosphere Reserves*, both adopted by the General Conference of UNESCO in 1995. In Pamplona, Spain in 2000, a Seville+5 meeting was held and various actions were decided, following through on the strategic recommendations from Seville.

This Madrid Action Plan was agreed at the 3<sup>rd</sup> World Congress on Biosphere Reserves. It builds on the Seville Strategy and aims to capitalize on the strategic advantages of the Seville instruments and raise biosphere reserves to be the principal internationally designated areas dedicated to sustainable development in the 21<sup>st</sup> century. The Biosphere Reserve concept has proved its value beyond protected areas and is increasingly embraced by scientists, planners and policy makers to bring a variety of knowledge, scientific investigations and experiences to link biodiversity conservation and socio-economic development for human well-being. Thus the focus is on developing models for global, national and local sustainability, and for biosphere reserves to serve as learning sites for policy professionals, research and

scientific communities, management practitioners and stakeholder communities to work together to translate global principles of sustainable development into locally relevant praxis.

#### **A. EMERGING CHALLENGES AND THE POTENTIAL AND ROLE OF BIOSPHERE RESERVES IN ADDRESSING THESE CHALLENGES**

During the 13 years since the adoption of the Seville Strategy, global issues and problems have emerged or intensified making it an imperative for the MAB Programme to adapt and change so as to effectively respond to these emerging challenges. These major challenges seriously further exacerbate poverty and inequality and include:

- accelerated climate change with consequences for societies and ecosystems.
- accelerated loss of biological and cultural diversity with unexpected consequences that impact the ability of ecosystems to provide services critical for human well-being.
- rapid urbanization as a driver of environmental change

From these challenges, several opportunities for change arise through increased awareness at all levels of the need to maintain and secure access to ecosystem services for human well being, including health, security and justice/equity.

MAP's overall goals are to:

- (a) anchor the research, training, capacity building and demonstration agendas of MAB at the interface between the interlinked issues of conservation and sustainable use of biodiversity, mitigation and adaptation to climate change and socio-economic and cultural well being of human communities;
- (b) enable the active use of places included in the WNBR as learning sites for sustainable development; i.e. demonstrating approaches to enhance co-operation amongst epistemic (academic), political, practitioner and stakeholder communities to address and solve context specific problems to improve environmental, economic and social conditions for human and ecosystem well-being;
- (c) collect, collate, synthesize and disseminate lessons learnt from more than 30 years of the work of the MAB Programme and the WNBR as well as their planned actions during 2008-2013 to benefit international, national and local efforts to meet global targets such as the MDGs, reducing rates of biodiversity loss by 2010 (also referred to as the 'CBD-2010 target') and others that are part of the UNFCCC and Kyoto processes linked to mitigating and adapting to global climatic change; and
- (d) contribute to the emergence of a new generation professionals and practitioners who can serve as diplomats, ambassadors and managers/coordinators for bridging global environmental agendas with national and local development aspirations.

The Madrid Action Plan (hereafter referred to as MAP or the MAP) articulates actions, targets and success indicators, partnerships and other implementation strategies and an evaluation framework for the work of UNESCO's Man and the Biosphere (MAB) Programme and its World Network of Biosphere Reserves (WNBR) for the period from 2008 to 2013. It takes fully into consideration the recommendations of the Expert Group that reviewed UNESCO's Natural and Social and Human Sciences Programmes during 2006-2007 and will make specific contributions towards the implementation of those recommendations as proposed by the Director General of UNESCO and approved by the 34<sup>th</sup> session of the General Conference of UNESCO in October-November 2007.

The MAP builds on past experience in the network and in individual biosphere reserves, and reaches out to scientists, public servants, private corporations, decision makers, resource management practitioners and stakeholder communities to create a new partnership between environmental and development agendas. To this broad community BRs should be seen both as a process, and an instrument to understand, and adapt to, change. The evolution of the MAB programme will be guided not only by the community most directly involved in managing BRs but also by the broader community inspired by the concept and experimenting with it.

The Madrid Action Plan is informed by a consultation process of Member States involving governing bodies such as MAB Bureau in June and September 2007; Advisory Committee on BRs in June 2007; circular letters issued by the MAB Secretariat in July and December 2007 and network meetings held in all regions of the world in 2007. MAP builds on the working documents addressing the 5 issues defined by the 19<sup>th</sup> session of the ICC for the preparation of the Madrid Conference.

---

## A.1 CLIMATE CHANGE

---

Climate change presents one of the most serious and globally significant challenges to society and ecosystems around the world today. Having filtered out the range of natural causes of climate change, the UNFCCC and its scientific panel IPCC have unequivocally established that the accelerated changes to our climate are anthropogenic. The volume of CO<sub>2</sub> and other greenhouse gases emitted primarily by the industrialized nations and now coupled with the demand from less industrialized parts of the world including emerging market economies means that, if unchecked the problems will multiply. In addition, the rate of deforestation in tropical areas is also contributing to the increase of CO<sub>2</sub> in the atmosphere as well as loss of ecosystem functions.

The rise in mean global temperature will mean that billions of people across the globe will face water shortages and millions more people will be exposed to malaria. Weather events will be more extreme such as droughts and floods, leading to a greater range and frequency of natural disasters. This will in turn lead to people moving from inhospitable areas to more amenable regions. The changes in rainfall distribution will drive changes in agricultural systems.

Most ecosystem services will be put under stress. For example 30 percent of species will be put at risk of extinction, desertification will increase; positive feedback mechanisms in the climate will further reduce tropical forests. Sea level rise and sea warming will impact on the ability of coastal systems to cope, such as mangroves and salt marshes, fish distribution will change increasing the fragility of coastal ecosystems and the human use of them.

Societal responses to climate change are centred on adaptation and mitigation, both of which bring their own consequences for current and future generations. Society must practice adaptation to accommodate the changes that are inevitable through the greenhouse gases already emitted and which will be active until they naturally decay. Based on scientific knowledge, adaptation measures may include land use change to safeguard ecosystem services and functions, such as coastal re-alignment, and management of river catchments. Mitigation is required by all nations to varying degrees in an effort to prevent the CO<sub>2</sub> equivalent in the air exceeding 450 parts per million. These will include carbon sequestration, emission reductions, energy efficiency and renewable energy production in a sustainable manner combined with more climate friendly lifestyles. The barriers to these being put in place can be lack of political awareness of solutions and/or the willingness to implement them, inadequate or lack of technical capacity, economic uncertainty as well as the absence of an integrated approach to development planning.

MAB and the WNBR bring added value through the integrated approach which is generally absent elsewhere. The role for biosphere reserves is essential, to rapidly seek and test solutions to the challenges of climate change as well as monitor the changes as part of a global network. For the Natural Sciences as well as other Programme Sectors of UNESCO, biosphere reserves can be areas for demonstrating adaptation measures for natural and human systems, assisting the development of resilience strategies and practices. Buffer and transition zones of biosphere reserves may also be testing many mitigation tactics and strategies. In numerous reserves carbon can be sequestered as in forest and wetland systems. In all reserves capacity can be built for low-carbon economies using a mix of technology and labour based social enterprises. From a social sciences point of view, the political dimensions of changing lifestyles can be explored. The range of biosphere reserves and the systems they represent will provide valuable lessons for the rest of the world.

## **A.2 PROVISION OF ECOSYSTEM SERVICES**

---

The Millennium Ecosystem Assessment (MA) has articulated and described the idea of ecosystem services in a manner that has gained widespread acceptance among public and private sector and civil society organizations. The new MA typology recognizes four distinct categories of services: supporting (nutrient cycling, soil formation and primary production); provisioning (food, fresh water, wood and fibre and fuel); regulating (climate, flood and disease regulation and water purification) and cultural (aesthetic, spiritual, educational and recreational).

Ecosystem services could be a useful conceptual framework to superimpose on the multiple functions ranging from protection to production in biosphere land/seascapes. The essence of biosphere reserves as sustainable development sites could be seen as the effort to design and develop place-specific mix of supporting, provisioning, regulating and cultural ecosystem services that enables environmental, economic and social well-being of resident and stakeholder communities. For example, the various zones of biosphere reserves can serve as places to attract new investments into hitherto neglected services (climate regulation, water purification, biodiversity conservation) and improve environmental and social performance of provisioning (agriculture, forestry, fisheries) and cultural (tourism) services that may have been the principal recipients of investments to-date. Active and continuing consultations between the scientific and research communities, policy and decision makers, resource managers and resident populations in the biosphere reserve are critical in finding the optimal mix of ecosystem services that would illustrate the role of the biosphere reserve as models for land/seascape level sustainable development at the regional, national and global levels.

## **A.3 URBANIZATION AS A PRINCIPAL DRIVER FOR ECOSYSTEM-WIDE PRESSURES**

---

Urbanization is a global multidimensional process which manifests itself through rapidly changing and spatially shifting population densities, land cover and resource use regimes and a diversity of associated cultural practices. Half of the world's population today lives in urban landscapes, a proportion projected to increase to 66-67% over the next 50 years. Most of this growth will occur in countries that constitute the less industrialized and emerging market economies of the world. It is estimated that by 2030 more than two billion people will be living in urban slums with limited access to basic services, facing extreme vulnerability to natural disasters. The rapid increase of large cities and the continuing transformation of urban landscapes represent great challenges to ensure basic human welfare and a liveable environment.

Urban landscapes represent probably the most complex mosaic of land cover and multiple land uses of any landscape. Urbanization and urban landscapes have recently been identified by the Millennium

Ecosystem Assessment as priority areas where large knowledge gaps exist. Urban landscapes provide important large-scale experiences of the effects of global change on ecosystems; significant warming and increased nitrogen deposition already are evident and they provide extreme, visible and measurable examples of human domination of "natural" ecosystem processes. However, cities are also perceived as places offering solutions for humans and the environment as main hubs of knowledge, capital and innovations.

A number of world cities are either considering, or have applied, the biosphere reserve concept to significant urban areas within their jurisdictions, with the intention of using the concept as a tool for planning and managing sustainable urban development.

## **B. VISION STATEMENT FOR THE WORLD NETWORK OF BIOSPHERE RESERVES WITHIN THE MAN AND THE BIOSPHERE (MAB) PROGRAMME**

---

The World Network of Biosphere Reserves of the Man and the Biosphere Programme consists of sites of excellence to foster harmonious integration of people and nature for sustainable development through participation, knowledge, well-being, cultural values and society's ability to cope with change, thus contributing to the MDGs.

## **C. MISSION STATEMENT FOR THE WORLD NETWORK OF BIOSPHERE RESERVES WITHIN THE MAN AND THE BIOSPHERE PROGRAMME**

---

To ensure environmental, economic, social (including cultural and spiritual) sustainability through:

- development and coordination of a world-wide network of places acting as demonstration areas and learning sites with the aim of maintaining and developing ecological and cultural diversity and securing ecosystem services for human well-being;
- development and integration of knowledge including science for advancing our understanding of interactions between people and the rest of nature;
- building global capacity for governance of complex socio-ecological systems particularly through encouraging greater dialogue at the science-policy interface, environmental education and multi-media outreach to the wider community.

## **D. PROGRESS SINCE SEVILLE**

---

The adoption of the Seville Strategy and the Statutory Framework in 1995 has clearly established the biosphere reserve as land/seascape level designation conferred by the UNESCO-MAB Programme to places in natural ecosystems as well as those significantly modified by humans. Since 1995 the essence and identity of biosphere reserve has deepened along the following axes: (a) multi-functionality and integration amongst the conservation, development and logistic or knowledge functions that demonstrate context-specific options for local and regional sustainability; (b) the three zone scheme core-buffer-transition area/zone scheme as the basis for the land/seascape level planning and for reconciling stakeholder interests linked to the multiple functions; (c) presence of resident and migrant human

settlements within the biosphere reserve; and (d) commitment to review biosphere reserve functioning, including the level of integration amongst the three functions, at least once every 10 years after the inclusion of a place in the WNBR.

As much as 98% of the places nominated as biosphere reserves since 1995 have adopted the three zone scheme. For those biosphere reserves included in the World Network prior to 1995 this percentage was 23% for those between 1976 and 1984 and 65% for others proposed during 1985-1995, respectively. Periodic review of biosphere reserves included in the World Network has resulted in many pre-1995 biosphere reserves being revised with respect to their zonation schemes and other essential features that define the post-1995, Seville vision of biosphere reserves.

While the Seville Strategy and the Statutory Framework of 1995 enabled the clarification and deepening of the niche of biosphere reserves among internationally designated places, the MAP aims to demonstrate and emphasize the role of biosphere reserves as learning sites for local and regional sustainable development practices as well as the importance of MAB and the WNBR as regional and global hubs for exchange of information, ideas, experience, knowledge and best practices in sustainability sciences. Experience in the application of some of the key tools of the 1995 Statutory Framework, such as the Periodic Review process will be assessed and the tool will be further refined for use in tracking changes in the performance of biosphere reserves in contributing to sustainable development outcomes including locally and regionally appropriate expressions of MDGs, CBD-2010 target, EFA, DESD and other global commitments made by UNESCO Member States.

## **E. THE MADRID ACTIONS \_ THE WORLD NETWORK OF BIOSPHERE RESERVES**

---

In attempting to orient MAB and the WNBR activities during 2008-2013 in the face of new challenges in an ever changing world, the MAP has defined 4 main action areas, with 31 targets and 61 actions that are critical to achieving the vision and mission of the MAB Programme. Targeted actions help its implementation at the appropriate level, may it be local, national or international, within the set time frame during 2008-2013.

Actions are to be taken at the local level (the individual biosphere reserves), the national level (MAB National Committees/UNESCO National Commissions) and the international level (Regional and sub-regional networks as well as ecosystems based thematic Networks, UNESCO MAB Secretariat). Although the biosphere reserve project is not time limited but has a long-term perspective, goals and targets have been set to be addressed within an appropriate time frame during 2008-2013 and progress towards meeting those goals and targets will be monitored and evaluated and the findings of such evaluations shared with others contributing to the work of the MAB Programme and the WNBR. A commitment to innovative time-bound socio-ecological and policy actions integrating the three biosphere reserve functions and the willingness to share data, information, experience and knowledge are seen as vital to the learning laboratory role that biosphere reserves are being groomed to fulfil during the UN Decade of Education for Sustainable Development (2005-2014).

### **E.1. COOPERATION, MANAGEMENT AND COMMUNICATION**

---

Biosphere Reserves are the principal means for achieving the objectives of the MAB Programme and the visible instrument through which UNESCO as a whole could demonstrate its commitment to sustainability through policy relevant site based research, capacity building and demonstrations. In order to respond to new and emerging environmental and economic challenges at all scales the management of

the program and the co-ordination of the work of the WNBR must be revised in light of 13 years experience of the implementation of the Seville Strategy and Statutory Framework. Necessary adaptations in the operation and outreach dimensions of WNBR need to be introduced in order to ensure that biosphere reserves effectively serve as learning sites for sustainable development at global, regional, national and local levels.

TARGET	ACTION	TIME	SUCCESS INDICATOR	RESPONSIBILITY FOR ACTION	PARTNERS
1. Effective implementation of the Seville Strategy	1.1 Assess the achievements of the Seville strategy, in order to feedback into the Madrid Action Plan.	2010	Assessment Document of the Seville Strategy	MAB Secretariat	MAB Bureau, MAB Networks, Biosphere Reserves, IUCN, UNDP and TNC
	1.2 Compile and synthesize the first-hand information on the functioning of biosphere reserves, which should then be shared inter-regionally and globally with the help of the MAB Secretariat.				
	1.3 Create and implement a system of recognizing performance of the Seville Strategy.	2010	Performance recognition system reviewed, adopted, by MAB-ICC, implemented and disseminated.	Secretariat in co-operation with Regional Networks	MAB Bureau, MAB Networks, Biosphere Reserves, IUCN, UNDP and TNC
	1.4 Elaboration of a WNBR map that shows different levels of performance by biosphere reserves established as a communication and monitoring tool	2010	Use of new forms.	MAB Secretariat	MAB Bureau, MAB Networks, Biosphere Reserves, IUCN, UNDP and TNC, Advisory Committee
	1.5 Update the nomination and periodic review forms for Biosphere				

TARGET	ACTION	TIME	SUCCESS INDICATOR	RESPONSIBILITY FOR ACTION	PARTNERS
	Reserves.				
2. Increased cooperation and coordination of Biosphere Reserves with existing international programmes and initiatives	2.1 UNESCO utilizes BRs in intergovernmental scientific programmes in addition to MAB.	2010	Number of BR working together with UNESCO programs (IHP, DESD, IOC, IGCP, MOST, IBSP, etc).	MAB Secretariat	MAB Bureau UNESCO programs (IHP, DESD, IOC, IGCP, etc). international initiatives (CBD, UNFCCC, IGBP, etc.)
	2.2 Work closely with the authorities responsible for the implementation of the World Heritage Convention and the Ramsar Wetland Convention to ensure coordination between these three international designations at the national level		Number of BR working with international initiatives (CBD, UNFCCC, IGBP, etc.)		UNESCO Science sector, WHC and Ramsar Convention Executive board of UNESCO All intersectoral programs of UNESCO such as DESD, EFA, UNESCO Chairs, associated schools programs, TWAS Executive board of UNESCO
3. Integrated information and communication	3.1 Creation of a web-based information clearinghouse	2013	Functioning information clearinghouse	MAB Secretariat	Regional, sub-regional, country and thematic networks in co-operation with MAB

TARGET	ACTION	TIME	SUCCESS INDICATOR	RESPONSIBILITY FOR ACTION	PARTNERS
strategy.	<p>and "information centre," to exchange and share technology, research &amp; cooperation opportunities, findings and experience, to help solve problems at local, regional and international levels.</p> <p>3.2 Produce regional, sub-regional, country and ecosystem specific publications on biosphere reserves, MAB and other related themes.</p> <p>3.3 Elaboration of a map presenting the WNBR according to ecosystem types, including human-impacted ecosystems such as rural and urban areas</p>	2009	<p>mechanism.</p> <p>Number and variety of publications (print, web-based etc.) and communications in UN as well other regional and nationally important languages</p> <p>Current template of WNBR Map adapted to produce region and ecosystem specific maps as and when needed</p>		<p>National Committees and BR administrations as appropriate, and PALNet-IUCN, and other relevant information networks.</p> <p>regional networks</p>
4. Participatory regional networks that are managed in an ethical,	4.1 Develop a structure, strategy and action plan for	2009	No. of regions completing and implementing	Regional Networks	UNESCO Field Offices, UNESCO National Commissions, National MAB

TARGET	ACTION	TIME	SUCCESS INDICATOR	RESPONSIBILITY FOR ACTION	PARTNERS
transparent and accountable manner assuring adequate representation of BR managers/ coordinators.	<p>each regional network to meet their responsibilities within the MAB-programme and regularly report to National MAB Committees and individual BRs on this progress.</p> <p>4.2 Ensure that each network has partnerships and long-term financing mechanisms from within its Membership to ensure sustainability of its operations and activities</p>	2010	structure, strategy and action plan; Number of individual BRs participating in regional network activities.		Committees and individual BRs.
5. Enhanced cooperation between experts and practitioners in relevant key issues	5.1 Create and strengthen existing regional and interregional thematic networks formed around key issues such as <i>inter alia</i> on mountains, freshwater, oceans, drylands, forests, urban areas, small islands	2010	Number of networks and extent of regional and thematic coverage	MAB Secretariat Regional Networks Individual BR, other institutions	Divers stakeholders at multiple scales
6. Communication strategies for each Biosphere Reserve, integrated with	6.1 Implement a communication strategy on	2010	Number of BRs that have developed and launched a	Regional Networks and Individual BR	UNESCO Communicatino and Information Sector, Bureau of Public

TARGET	ACTION	TIME	SUCCESS INDICATOR	RESPONSIBILITY FOR ACTION	PARTNERS
national and higher levels.	environmental, economic, social, spiritual, cultural and political importance and benefits of BRs and the WNBR, directed to national governments, policy makers, journalists, local communities and other target groups.		communication strategy ;		Information, and Field Offices
7. Functional MAB National Committees in each country, managed in an ethical, transparent and accountable manner, assuring adequate representation of BR managers/ coordinators and other key stakeholders.	7.1 Create or restructure MAB National Committees  7.2 Develop a structure, strategy and action plan for each MAB National Committee, to assist BRs meet their responsibilities within the MAB Programme, and support the planning phase for new nominations.	2008	Number and composition of functioning MAB National Committees	Member States, UNESCO National Commissions and other National Government authorities concerned with BRs	Divers stakeholders at multiple scales

TARGET	ACTION	TIME	SUCCESS INDICATOR	RESPONSIBILITY FOR ACTION	PARTNERS
8. Increased linkages between BR activities and sustainable development initiatives at multiple scales.	8.1 Encourage and enable individual BRs to collaborate with UN-led policies, strategies and action plans towards sustainable development, as well as other initiatives outside the UN-system.	2010 & 2013	Number of BRs contributing to in-country UN and other initiatives on sustainable development;	MAB National Committee Individual BRs	Regional Networks and MAB Secretariat
9. All BRs undertake periodic review and related actions to update zonation, management and governance and other changes to their biosphere reserves to meet Seville and MAP requirements and recommendations	9.1 Screen new biosphere reserve proposals as well as devise schemes to support periodic review processes that include field-visits by teams of regional and national experts, in cooperation with the UNESCO regional, cluster and national Offices as appropriate;	2010 and 2013	Number of BR that have undertaken necessary steps to update themselves to a post-Seville and MAP vision	National with support from Regional Networks	
10. Open and participatory procedures and processes for sharing authority in the designation, planning and implementation of their BR	10.1 Every BR should carry out a participatory planning process such as Local Agenda 21 to guide biosphere reserve implementation			Biosphere reserve	

TARGET	ACTION	TIME	SUCCESS INDICATOR	RESPONSIBILITY FOR ACTION	PARTNERS
	<p>assuring “participatory management” especially for traditional, local and indigenous communities.</p>	<p>10.2 Every biosphere reserve should establish a management committee comprising stakeholders representing different sectors of all three zones of the biosphere reserves.</p>			
<p>11. Enhanced legal recognition of BRs where appropriate</p>	<p>11.1 Acknowledging that individual BRs remain under the national jurisdiction, encourage States to include BRs in their own legislation</p>				

## E.2. ZONATION - LINKING FUNCTIONS TO SPACE

According to the Statutory Framework, biosphere reserves should contain one or more core areas, a buffer zone and a transition area to accommodate their multiple functions.

While education, research, monitoring and capacity building are seen as components of the logistic or knowledge generation function of biosphere reserves they are also integral to the conservation and development functions as well in order to view biosphere reserve activities as experimental in nature and contributing towards learning policy and practice in sustainable development.

Facing new challenges it is important to shift towards a more integrated understanding of zoning. Thus the transition area in addition to the development function also can consider conservation/environmental goals and elements whereas the core areas in addition to their conservation function do contribute to a range of ecosystem services which in terms of the development functions can be calculated in economic terms (e.g. carbon sequestration, soil stabilization, supply of clean water and air etc.) and thus become precious assets. Employment opportunities can also complement conservation goals in the core area or buffer area (e.g. environmental education, research, environmental rehabilitation, and conservation measures, recreation and eco-tourism).

Special attention is to be given to the buffer zone as in many BRs their role is to minimize negative and external effects of human induced activities on the core areas. In addition the buffering function related to the core area it can have its own intrinsic, "stand alone" functions for maintaining anthropogenic biological and cultural diversity. Buffer zones can also have an important connectivity function in a larger spatial context as it connects biodiversity components within core areas with those in transition area/area of cooperation.

People live and make a living in transition areas which are characterized by multiple land uses. Transition areas have a central function concerning socio-economic development. In the past a shortcoming of the transition area is that its outer boundary is not required to be delineated or spatially defined. But the establishment of cooperation plans and concepts, implementation of co-operation projects and fostering of committed citizenship need clear boundaries which are easy to accept and to understand. Furthermore the inclusion of the total biosphere area in the World Network needs to be clearly specified and hence while acknowledging the arbitrary or fuzzy nature of transition area boundaries they nevertheless must be specified. Cooperation however, can extend beyond those boundaries, for sharing best practices, solutions and approaches with the wider region, thus fulfilling the BR's role as a learning sites for regional sustainable development.

Subsequently the following actions are to be taken in order to make the biosphere reserves more effective in combining conservation, sustainable use of resources and knowledge generation through integrated zonation and collaborative management:

TARGET	ACTIONS	TIME	SUCCESS INDICATOR	RESPONSIBILITY FOR ACTION	PARTNERS
12. Analysis of zonation of all BRs to be accomplished	12.1 Carry out a survey on the present zoning system of the WNER (including the proportions of the different zones) and investigate how well they fulfil the three functions in each zone	2010	Outcome of analysis submitted to ICC and results and ICC recommendations published.	MAB Secretariat and Regional Networks	
13. Functional zonation in all biosphere reserves sites established, particularly with regard to the transition area and the development function	13.1 Develop and apply practical tools and guidelines for zoning at the national level.  13.2 Use BRs to manage large biome as a BR system and for extensive terrestrial and marine areas as a series of units linking up relatively small protected core areas with significantly larger buffer and transition areas.  13.3. Determine the best suitable zonation patterns and define performance standards for each zone. Ensure sufficient size of each zone for the BR function and identify the contribution of each zone to the whole BR.	2013	100% sites have functional BR zonation	National MAB Committees and Regional Networks	

13.4 Clearly define the outer boundary of the BR in determining the transition zones ("area of co-operation") through stakeholder consultation. The BR should consider natural, e.g. watershed, ecosystem etc., as well as political and administrative boundaries in defining its delimitation and clearly explain the rationale behind that determination in the nomination form/periodic review form.

13.5 Encourage national recognition of BR zonation schemes as an important planning tool for programmes linked to protected areas in production landscapes

14. Co-operative Conservation and Development Strategies for BRs

14.1 Use appropriate tools such as the Ecosystem Approach, gap analysis, the concept of corridors, ecological networks etc. for a) a better connectivity of ecologically important sites and elements in the landscape, b) a better inter-linkage of areas (zones) and enhanced buffering and c) a better consistency in planning.

2013

25 BRs have well designed plans with sufficient conditions for assuring financial and operational sustainability

Individual BR

### **E.3. SCIENCE AND CAPACITY ENHANCEMENT**

Ecosystems provide goods and services to all humanity, but the sustainable use of these benefits is challenging in the face of rapid climate, environmental, social, and political changes. To cope with changes, biosphere reserves play a crucial role to generate knowledge on how natural systems work and how to maintain ecosystem services and resilient ecosystems while at the same time using these systems to create income, employment and wealth. Wide cooperation from institutions and stakeholders is needed within BR to foster communication among scientists, policy makers, private companies and others. In order to achieve this there is a need for a significant strengthening of both science and capacity in the WNBR.

Both scientific as well as traditional knowledge from indigenous people is needed for adaptation to change and building resilience.

Since 2004 the MAB International Coordinating Council (ICC) encourages all countries to support United Nations Decade on Education for Sustainable Development (DESD, 2005-2014) led by UNESCO. BRs provide an excellent opportunity to play an active role as learning sites for sustainable development in order to implement national policies and strategies on the MDGs, implement the WSSD Plan and strategies for the DESD.

TARGET	ACTIONS	TIME	SUCCESS INDICATOR	RESPONSIBILITY FOR ACTION	PARTNER
15. Communication of BR experiences on management and stakeholder participation of ecosystem services to relevant policy constituencies such as UN bodies and others	<p>15.1 Undertake a critical analysis and synthesis of existing data based on experience of implementing the management plans/cooperation plans of biosphere reserves around the World, including their relationship to ecosystem services.</p> <p>15.2 Promote the Programme's global network function through the systematic recording of policy-relevant case studies and ensuring their availability and</p>	2013	Number of BRs providing information to global fora	UNESCO National Commissions and MAB National Committees	CBD, UNFCCC, UNCCD, CSD and others

TARGET	ACTIONS	TIME	SUCCESS INDICATOR	RESPONSIBILITY FOR ACTION	PARTNER
	dissemination  15.3 Develop actions to increase synergies among international, regional and national programs currently developed and executed in parallel such as CBD and Agenda 21 and One UN activities.				
16. A series of site based policy relevant research programmes	16.1 Coordinate with UNESCO ISPs (Intergovernmental Science Programmes) and other relevant national Government offices to promote policy and implementation programmes  16.2 Mobilize scientific and non-scientific actors combining all knowledge systems, including traditional knowledge, in order to strengthen the scientific functions of BRs  16.3 Improve access to information and new ways to communicate	2012	Numbers of scientific articles, books on sustainability referring to BR or using the concept. Number of MS of PhDs on BRs or related topics	MAB Secretariat	Universities and research centres associated with BRs, Collaboration with UNU

TARGET	ACTIONS	TIME	SUCCESS INDICATOR	RESPONSIBILITY FOR ACTION	PARTNER
	<p>knowledge to a large variety of non-scientific target groups</p> <p>16.4 Strengthen the role of science in decision-making through problem-oriented, applied research in order to increase the availability of funding for both science and management and ensure good science-informed participatory and collaborative management</p>				
17. Trained BR managers and other relevant stakeholders	<p>17.1 Provide training to BR managers on science-policy-practice interaction and participatory management for science and other relevant areas</p> <p>17.2 Promote capacity enhancement programme for BR administrators and managers, such as on adaptive management including conflict resolution and negotiation skills</p>	2010	Number of regions with completed or active courses	Regional Networks	Research institutes, and higher education centres
18. Coastal, marine and island BRs	18.1 Coordinate with UNESCO ISPs	2010	Number of coastal and Marine BR	Regional Networks National	IOC, IHP, IGCP

TARGET	ACTIONS	TIME	SUCCESS INDICATOR	RESPONSIBILITY FOR ACTION	PARTNER
used in assisting Member States in developing ocean policies, mechanisms and proposals on Integrated Coastal Zone and Watershed Management	(Intergovernmental Science Programmes) and other relevant national Government offices to promote policy and implementation programmes  18.2 Adopt a systematic approach for research, information generation/collecti on and policy follow-up in marine, island and coastal BRs		established and/or participating in MSP (Marine Spatial Planning) and ICZM approaches	Committees and MAB Secretariat	
19. BRs to have research programmes on analyses of ecosystem services and their management through stakeholder participation	19.1 Mobilize scientific and non-scientific actors combining all knowledge systems in order to strengthen the scientific functions of BRs  19.2 Seek international support for BR with the national authorities responsible for securing international support for projects on biodiversity conservation, international	2012	Number of BRs have research programmes	BRs and National Committees	GEF, UNDP, EU, international NGOs, etc.

TARGET	ACTIONS	TIME	INDICATOR	RESPONSIBILITY FOR ACTION	PARTNER
	waters, climate change				
20. BRs have a research programme linked to the development of the management plan and the zoning	<p>20.1 Ensure stakeholder involvement in the production of a research agenda to be incorporated in the management plan for the whole BR</p> <p>20.2 Use the BR – because it is a multifunctional unity - as site for applied, problem oriented research for sustainable development linked to the zoning and the co-operation plan. Incorporate the results of applied ecological and socio-economic research into ecosystem management of all areas and link educational activities to the different functions in all areas.</p>	2013	Number of BRs with defined and operational research programmes.	Individual BR	
21. Decade for Education for Sustainable Development programmes with educational and research	21.1 Promote the BR as a learning site of excellence for SD, for demonstrating trade offs and balance amongst ecosystem services and functioning,	2010	Number of schools associated with BRs though joint classes, school camps, curriculum	Individual BR	Associated Schools Project, UNESCO Education Sector

TARGET	ACTIONS	TIME	SUCCESS INDICATOR	RESPONSIBILITY FOR ACTION	PARTNER
institutions	human-environment interactions and wellbeing, in the framework of DESD.		development		
22. Exchange of education resources for widespread adaptation and application	<p>22.1 Improve capacity of the WNBR with the aim of building strong learning organizations, alliances and empowering all stakeholders at each BR</p> <p>22.2 Provide appropriate staff and funding a) to enable BR managers/coordinators to actively contribute to the WNBR, i.e. translation of best practices report into local languages and b) to feed this information into the internet site of MAB UNESCO</p>	2010 and 2013	Number of education programmes; number and range of awareness and educational materials produced	Individual BR	
23. A mechanism for BRs to address urban issues in a regional context	23.1 Facilitate the integration of urban areas into BRs	2010 and 2013	No. of city authorities testing with the biosphere reserve concept in city planning and urban green space management	MAB Urban Group, Regional Networks,	City Authorities, ICLEI, Professional Planning Institutions Universities and research centres associated with BRs

TARGET	ACTIONS	TIME	SUCCESS INDICATOR	RESPONSIBILITY FOR ACTION	PARTNER
24. BRs used as learning sites for research, adaptation, mitigation in relation to climate change	<p>24.1 Implement the GLOCHAMORE Research Strategy in mountain regions</p> <p>24.2 Develop strategies for other ecosystems in collaboration with relevant national and international organizations</p> <p>24.3 Carry out training courses for different ecosystem types related to climate change</p>				

## E.4. PARTNERSHIPS

At all times the strength and opportunity of partnerships should be drawn upon to cooperatively develop the functions of the BR. There is a need to focus efforts on building and improving upon existing partnerships and alliances, championing new initiatives, and creating new partnerships and projects that involve many stakeholder groups. Cooperative activities range from biodiversity conservation to ecosystem management and sustainable use of environmental goods and services.

The “added value” of partnerships is improved effectiveness of the management strategies, change of attitude within the stakeholders themselves, better mutual understanding, informed decision making, more awareness and technical and financial support of the management of the BR.

The long-term functionality of a BR requires long-term financing for both planning and implementation phases. Generating funds falls primarily under the responsibility of individual BRs managers/coordinators with support and assistance from MAB National Committees, Regional Networks, UNESCO-MAB Secretariat solicited as and when needed.

Economic activities provide potential benefits for BR:

- Contributions to economic development in terms of strengthening the role of the private sector, revenue generation for the maintenance of natural areas e.g. through tourism

- Corporate Social Responsibility (CSR) schemes of leading multi-nationals as well as national and regional private sector institutions provide funds for development or maintenance of sustainable practices

There are already very good examples of economic benefits of BR and the feasibility of integrated conservation and development in and around BRs. They will indeed improve their performance at the operational level if they have sufficient and well trained personnel, equipment, project budget and capabilities to fulfil all three functions in all zones.

TARGET	ACTION	TIME	SUCCESS INDICATOR	RESPONSIBILITY FOR ACTION
25. Improved financial mechanisms for BRs and regional networks	<p>25.1 Establish partnership agreements with relevant institutions/organizations to carry out Payment for Ecosystem Services projects</p> <p>25.2 Establish partnership agreements, such as for water, forest and carbon funds</p> <p>25.3 Seek national and international support for BR and regional networks with the authorities responsible for projects on biodiversity conservation, international waters, climate change, poverty reduction etc.</p>	2013	Number of regions launching PES projects	MAB-ICC, Regional Networks  (Partners: GEF, UNDP, EU, international NGOs, etc.)
26. Improved generation of profits and livelihood benefits in BRs through sustainable production, harvesting, processing and marketing of BR products	<p>26.1 At least one pilot BR in each Regional Network chosen to carry out an assessment of the economic contribution of BR to local economies with the active involvement of local communities</p> <p>26.2 Further the work of the Quality Economies Task Force by creating or strengthening partnerships with businesses to identify, develop and promote markets and fair trade for goods using the BR brand</p>	2013	Number of BRs developing assessments in each region	Regional Networks  (Partners: private sector)
27. Increased involvement, support and buy-in of private sector	<p>27.1 Create or strengthen partnerships with businesses to identify, develop and promote markets and fair trade for goods and services in BR and support management and communication relating to BRs</p> <p>27.2 Promote incentives for</p>	2013	a) Number of businesses actively involv	BRs and National committees

products labelling in BRs

ed in  
imple  
mentin  
g the  
BR  
idea/  
BR  
manag  
ement

b)  
Numb  
er of  
busine  
sses  
activel  
y  
involv  
ed in  
suppor  
ting  
activiti  
es  
indirec  
tly in  
BR's

28. Exchanges  
between BRs

28.1 Support study tours/site  
visits between stakeholder groups  
in BRs

2010 &  
2013

Numb  
er of  
exchan  
ges

Regional Networks  
Regional and Interregional  
Thematic Networks  
Individual BRs

28.2 Encourage and enable  
twinning programmes between  
Biosphere Reserves sharing  
specific issues

28.3 Encourage South-South  
cooperation and triangular South-  
North-South cooperation

29. Partnerships

29.1 Establish partnerships with  
local governments and sectors  
such as education to champion  
cooperative activities ranging  
from education and research to  
sustainable use of environmental

2010

Numb  
er of  
partner  
ships  
establi

Individual BRs

	goods and services	shed
	29.2 Establish partnerships with regional economic and financial institutions	
<b>30.</b> Transboundary BRs	30.1 Support the development of new and strengthen existing transboundary BRs as well as other forms of transboundary cooperation	
<b>31.</b> BRs for peace, security and conflict management	31.1 Using BRs as mechanisms for peace and security	

## **F. APPROVAL, IMPLEMENTATION AND EVALUATION**

---

The Action Plan has been endorsed by the 20<sup>th</sup> session of the MAB-ICC and is proposed for adoption by the next General Conference of UNESCO, scheduled for October-November 2009. The MAP will then become an integral part of UNESCO's strategy working towards the achievement of internationally agreed goals and targets including the MDGs, EFA, DESD as well as emphasizing UNESCO's contributions towards One UN, UNDAF and other in-country co-ordination frameworks promoted under UN reform at the country level. The MAP will contribute towards the Director-General's implementation plan to integrate the recommendations of the Expert Group that reviewed the Natural and the Social and Human Sciences Programmes of UNESCO during 2006-2007.

The implementation of MAP will be carried out during next six-year Strategic Planning Framework, which is the same as that of the MAP, of UNESCO including its Division of Ecological and Earth Sciences which hosts the Secretariat for MAB and WNBR.

The ICC, the MAB Secretariat, the **Regional Networks** and the **MAB National Committees** through results oriented partnerships with public and private sector and civil society organizations will provide the leadership for the successful implementation of the Plan.

The **MAB/ICC, UNESCO's National Commissions** and MAB National Committees will be critical to the effectiveness of the implementation of the Plan through deep involvement in communicating the importance of, and gaining support for the MAB Programme and the WNBR with national Governments, donors and development cooperation agencies, private sector and civil society organizations at all levels.

**MAP will be evaluated in 2010 and 2013.** The mid-term evaluation will be carried out by a team, whose composition and terms of reference (TOR) will be set by the MAB-ICC at its 21<sup>st</sup> session 2009. The timing, team composition and TOR for the final evaluation due in 2013 will be determined by the ICC at its 22<sup>nd</sup> session.

## ACRONYMS

---

<b>AC</b>	<b>Advisory Committee</b>
<b>BPI</b>	<b>UNESCO Bureau for Public Information</b>
<b>BR</b>	<b>Biosphere Reserves</b>
<b>CI</b>	<b>UNESCO Communication and Information Sector</b>
<b>CBD</b>	<b>Convention on Biological Diversity (1992)</b>
<b>CO<sub>2</sub></b>	<b>Carbon dioxide</b>
<b>COP</b>	<b>Conference of the Parties to the CDB</b>
<b>CYTED</b>	<b>Ibero-American Programme for the Development of Science and Technology. A thematic network on biosphere reserves has been established within the larger framework of CYTED.</b>
<b>DESD</b>	<b>UN Decade of Education for Sustainable Development (DESD)</b>
<b>EFA</b>	<b>UNESCO - Education For All</b>
<b>EU</b>	<b>European Union</b>
<b>GEF</b>	<b>Global Environment Facility</b>
<b>GLOCHAMORE</b>	<b>UNESCO Project "Global Change in Mountain Regions</b>
<b>ICC</b>	<b>International Coordinating Council for the MAB Programme</b>
<b>IPCC</b>	<b>Intergovernmental Panel on Climate Change</b>
<b>ISP</b>	<b>UNESCO's Intergovernmental Scientific Programmes</b>
<b>IUCN</b>	<b>World Conservation Union</b>
<b>MA/MEA</b>	<b>Millennium Ecosystem Assessment</b>
<b>MAB</b>	<b>UNESCO's Man and the Biosphere Programme</b>
<b>MDG</b>	<b>Millennium Development Goals</b>
<b>One UN</b>	<b>Experiments to rationalize programmatic, managerial and budgetary structures of various UN Programmes and Agencies and co-ordinate their inputs to national development planning</b>
<b>NGO</b>	<b>Non-Government Organizations</b>
<b>PES</b>	<b>Payments for Ecosystem Services</b>
<b>SD</b>	<b>Sustainable Development</b>
<b>TWAS</b>	<b>The academy of sciences for the developing world</b>
<b>UN</b>	<b>United Nations</b>
<b>UNEP</b>	<b>United Nations Environment Programme</b>
<b>UNDP</b>	<b>United Nations Development Programme</b>
<b>UNESCO</b>	<b>United Nations Educational, Scientific and Cultural Organization</b>
<b>UNFCCC</b>	<b>United Nations Framework Convention on Climate Change</b>
<b>WHC</b>	<b>World Heritage Centre</b>
<b>WNBR</b>	<b>World Network of Biosphere Reserves</b>
<b>WSSD</b>	<b>World Summit on Sustainable Development in 2002</b>