

**CONSERVATION AND SUSTAINABLE USE
OF THE
MESOAMERICAN BARRIER REEF SYSTEMS PROJECT
(MBRS)**

Belize - Guatemala - Honduras - Mexico



**REGIONAL ENVIRONMENTAL
AWARENESS STRATEGY**

**Mesoamerican Barrier Reef Systems Project
Project Coordinating Unit
Coastal Resources Multi-complex Building
Princess Margaret Drive
Belize City, Belize
Po Box. 93**

April 2003

List of Acronyms

BELPO	Belize Environmental Law and Policies
BEMAMCCOR	Belize Mexico Alliance for the Management of the Common Coastal Resource
CCAD	Central American Environment and Development Commission
CECON	National Conservation Studies Center
CICESE	Ensenada Scientific Research and Higher Studies Center
CINVESTAV	IPN Research and Advanced Studies Center
CURLA	Atlantic Coast Regional University Center
ECOSUR	Southern Border College
UMA	Environmental Management Unit
ENP	Honduras National Port Enterprise
FLACSO	Latin American Faculty of Social Sciences
FUNDAECO	Foundation for Development and the Ecology
FUNDARY	Mario Dary Foundation
FUNDEMUN	Municipal Development Foundation
GEF	Global Environment Fund
ILO	International Labor Organization
INADES	National Development Institute
IUCN	International Union for Conservation of Nature
MARN	Ministry of the Environment and Natural Resources, Guatemala
MBC	Mesoamerican Biological Corridor
MBRS	Mesoamerican Barrier Reefs Systems Project
MPA	Marine Protected Area
ODECO	Community Development Organization
ONECA	Central American Negroes Organization
PACT	Protected Areas Conservation Trust
PROARCA	Regional Environment Project for Central America
PROLANSATE	Foundation for the Protection of Lancetilla, Punta Sal and Taxisigua
REHDES	Honduran Ecological Network for Development
SEDUMA	Urban Development and Environment Secretariat
SEMARNAT	Environment and Natural Resources Secretariat
SERNA	Natural Resources and Environment Secretariat
SEyCQROO	Education and Culture Secretariat of Quintana Roo
SICA	Central American Integration System
SWOT	Analysis Method (Strengths, Weaknesses, Opportunities, and Threats)
TIDE	Toledo Institute Development
TMPA	Transboundary Marine Protected Area
TNC	The Nature Conservancy

TRIGOH	Tri-national Alliance of the Gulf of Honduras
UB	University of Belize
UNAH	National Autonomous University of Honduras
UNAM	National Autonomous University of Mexico
UNEP	United Nations Environment Program
UNIPESCA	Fisheries Unit
UQROO	University of Quintana Roo
USAID	The United States Agency for International Development

PRESENTATION

For the Central American Environment and Development Commission, through the Coordination Office of the Mesoamerican Barrier Reef System (MBRS) Project, it is our pleasure to present the "MBRS Regional Environmental Awareness Strategy". This is a critical analysis of the marine coastal socio-environmental situation in the Mesoamerican region, established through a participatory process with the key actors of the union, as well as a proposal for several environmental campaigns and some complementary activities.

The Regional Environmental Awareness Strategy is presented as a useful guide for those mayors' offices, MBRS institutions, projects, programs, non governmental organizations and community groups in the four member countries, that wish to join their efforts in building a society which is aware and motivated to participate. In this way they will be contributing to an integral solution of the complex problems which threaten the Mesoamerican Barrier Reef System and its associated ecosystems.

We trust that the document, as well as promoting a substantive change in the vision and behavior of MBRS users, will permit efforts to be directed, enrich other similar strategies and may be of use for finding clear synergetic elements among the interested parties for their immediate coordination.

Noel D. Jacobs
Regional Coordinator
MBRS Project

INDEX

LIST OF ACRONYMS	1
PRESENTATION	4
ACKNOWLEDGMENT	7
PROLOGUE	8
EXECUTIVE SUMMARY:	
Determining Aspects and Significant Elements of the Strategy.....	9
1. INTRODUCTION	11
2. STRATEGIC FRAMEWORK	12
Mission	
Vision	
3. OBJECTIVES	12
4. CONCEPTUAL AND METHODOLOGICAL FRAMEWORK	12
5. CONTEXTUAL SOCIO-ENVIRONMENTAL ANALYSIS OF MEMBER COUNTRIES	14
6. PRIORITIZATION OF COMMON PROBLEMS	17
Ecological Context	
Socio-economic Context	
Culturally Differentiated Communities	
General Considerations	
7. ESTABLISHMENT OF THE AWARENESS STRATEGY	20
Selection of the best site for the initial implementation of campaigns	
8. BREAKDOWN OF CAMPAIGNS	21
9. SPECIFIC DEVELOPMENT OF EACH CAMPAIGN	23
Prioritization of Campaigns	
10. CONDITIONS NECESSARY FOR THE STRATEGY TO BE SUCCESSFUL	48
Implementation	
Flag Species	
11. SCHEDULES	50
Schedule of strategy actions	
Description of the activities contained in the Schedule	
12. STRATEGY EFFECTIVENESS INDICATORS	54
Process for preparing the indicators	
Monitoring Topics	
13. BIBLIOGRAPHY	62

14. ANNEXES

ANNEX 1. SYNTHESIS SHEET (MATRIX).....64
ANNEX 2. DIRECTORY OF INTERNATIONAL CONTACTS.....65

ACKNOWLEDGMENT

This Strategy document was prepared with the collaboration of the countries executing the MBRS Project (Belize, Guatemala, Honduras and Mexico), all of whom contributed substantial resources through their institutions throughout the Strategy consolidation process.

Special acknowledgment is for the coastal mayors' offices of the region, for having provided human and material resources, without which it would have been impossible to comply with the tasks proposed, especially the mayors' offices of Corozal, Chetumal, Puerto Cortés, Tela, Omoa and Puerto Barrios.

Other institutions from the countries involved have also participated with data and technical information, such as: BELPO and TIDE in Belize; FUNDAECO and FUNDARY in Guatemala; DiBio, PROLANSTATE and the UNAH in Honduras; BEMAMCCOR, ECOSUR, University of Quintana Roo and Friends of the Manatee Sanctuary in Mexico.

We would like to acknowledge Dr. Maria Eugenia Andara for her participation in this work, as well as some key actors and community leaders whom we wish to thank for their contribution. Likewise, we thank Erick Fernández, Humberto Bahena Suárez, Héctor Ventura and Francisco Salazar for their courtesy in sharing some of the photographs of this publication.

Revision and Adaptation of the Document

Demetrio Martínez	Sociologist and MBRS Communications Officer
Héctor Carlos Gamboa	Academy of Ecology and UQROO (University of Quintana Roo) Natural Resources Management
Héctor Ventura	Academy of Ecology and UQROO Natural Resources Management
Lidia Serralta	Professor of Biology and Head of Organizational Strategies of the UQROO
Oscar Lara	Specialist in MBRS Natural Resources
Marydelene Vásquez	Specialist in MBRS Information Systems
Noel D. Jacobs	Regional Director of the MBRS Project
Patricia Almada Villela	Specialist in MBRS Environmental Monitoring
Ricardo Briceño Millán	Specialist in Commercial Systems, Academy of Ecology and Natural Resources Management

Publishing of the Document

MBRS Project Team

PROLOGUE

In the Mesoamerican Barrier Reef System (MBRS) one of the main origins of the environmental problem in the Marine-Coastal region of the countries belonging to the system (Honduras, Guatemala, Belize and Mexico) is considered to be the lack of awareness (recognition of the importance of environmental resources and the need to conserve them, as well as recognizing the dynamic interactions between different users and the ecosystems). This circumstance has determined that an essential requirement for solving this problem is the establishment of an **Environmental Awareness Strategy**. In other words, a proposal of concepts and coordinated actions which will allow us to achieve recognition of the forms, limits and mechanisms for using existing resources, as well as the possibility of developing procedures for reducing current negative impacts. As a consequence, it is envisaged that future generations will make use of them in the same or better conditions than they are in today.

The activities currently implementing this MBRS initiative in the region are representative of the priorities identified and ratified by the four member countries. These actions are distributed throughout the four components of the Project: Marine Protected Areas, Regional Environmental Information Systems, Sustainable Use of the MBRS, Public Awareness and Environmental Education.

A common element in the components mentioned above are the activities directed at furthering socio-environmental awareness. With the objective of systematizing and coordinating these activities, through this document the MBRS proposes to implement a **Regional Environmental Awareness Strategy** which will promote a substantive change in vision and conduct in relation to the use of natural resources, through a social recognition of the value of and need for conserving the resources available in the MBRS region.

The content described here represents part of the Regional Coordination Unit's vision of the Project in relation to the actions by which the mission of the strategy can be achieved. However, it will be the institutional possibilities of the member countries which will complement the number, magnitude and priority of the implementation of the actions considered. In this context, one of the elements which has marked the actions developed by the MBRS member countries is the high level of integration which exists between these, which is why it is considered to be a fundamental factor for the success and development of actions coordinated among the institutions inside and outside each member country.

EXECUTIVE SUMMARY

Determining Aspects and Significant Elements of the Strategy

This Environmental Awareness Strategy is based on a recognition of the value of the resources in the region of the Mesoamerican Barrier Reef System (MBRS), on an analysis of the ecological, socioeconomic and cultural conditions, interviews with key actors, and prioritization of problems in the transboundary regions, through a SWOT analysis in the four countries involved (Mexico, Belize, Honduras and Guatemala).

The strategy seeks to promote a substantive change in the vision and conduct of the users of the resource, through social recognition of the value of and need to conserve resources available in the MBRS region, for improving the quality of life of its residents and maintaining the future base of marine-coastal resources, and the promotion of regional action through social induction towards a movement of regional participation in managing the environmental problem.

The Environmental Awareness Strategy is presented as a complement to the Communication Strategy of the Mesoamerican Biological Corridor (MBC), with which it shares many aspects of implementation through common objectives and goals, although they are geographically different.

For presenting the strategy, the concept of holistic management of the region's natural resources was considered. In the complete document the 4 steps followed for reaching this concept are presented in detail. Also mentioned is the list of the target populations selected for implementing the environmental awareness campaigns, these being the following sectors: communities, tourists, government, industrial, public in general and communicators.

The methodology used to put this strategy into practice was based on strategic planning and in this context its mission and vision are mentioned in the document.

The objectives of the Environmental Awareness Strategy are:

- To establish an awareness strategy to contribute to achieving a change of attitude among inhabitants of the MBRS region, which will allow them to deal with their economic, cultural and food problems in a way which is compatible with their environmental capacities.
- To design campaigns using the different media in order to reach the greatest number possible of users in the MBRS region, for the purpose of informing them about the fragility of the coastal-marine ecosystem, as well as the advantages and benefits of improving techniques for its use and conservation.

In general terms, the issues dealt with in the awareness campaigns are presented from two viewpoints: ecological (the value of use and conservation of the barrier reef system) and respect for cultural diversity.

The efforts of the awareness campaigns will take the following into account:

- They will lead people to activities which will guide actions in the direction of conserving health in the priority ecosystems of the MBRS, mainly to avoid and in some cases to control pollution and deterioration.
- They will promote appropriate fishing, respect for legislation and avoid over fishing.
- They will provide incentives for sustainable tourism and its benefits for local communities.
- They will promote the ecological and economic value of certified products, through successful experiences in other regions.

- They will promote the value of benefits resulting from the existence and management of protected areas in the MBRS.

The awareness campaigns will be developed throughout the MBRS region, but specifically in its two transboundary regions of importance: the Bay of Chetumal/Corozal and the Gulf of Honduras, identified as being decisive and critical areas for implementing sustainable development actions; furthermore the role played by the culturally differentiated communities is recognized as being of great importance.

Experiences achieved in the initial areas will allow the establishment of planning and a new strategy for increasing the campaign's area of action through the reproduction of successful aspects.

In the complete document, the campaigns are broken down and the target population is mentioned, as well as activities to be developed and information to be disseminated, the right time for dissemination and channels proposed for transmitting the information.

Furthermore, the information which is available in catalogue form contains the following: name of the campaign, strategy to be used, target population, activity to be developed, information to be disseminated, style of language, language, best time for implementation, special considerations, comments and method of distribution.

For the success of the campaigns it will be necessary to have the ideal conditions for its implementation. It is suggested that the strategy also take into consideration educational activities which illustrate and dramatize the marine-coastal problem with colloquial and very clear language, in such a way that it will be directly assimilated by the target population.

The success of the Awareness Strategy for the MBRS will depend on the Project keeping the public, non governmental organizations and the scientific, educational and industrial community well informed about the different campaigns. Moreover, it would be a good idea to further the participation of other groups: local sports clubs, fishermen's associations, women's associations, NGOs, tourist entrepreneurs and local and national politicians, as well as individuals with good public standing.

The purpose of the above actions is to keep a close communication link with the society in relation to benefits and future goals in the development of the strategy.

In the strategy proposal there is also an annual schedule, divided into quarters, which are the periods during which the actions of the Environmental Awareness Strategy should be implemented.

Evaluation and follow-up to the MBRS Awareness Strategy require the preparation of a system of indicators (composite) which will allow the qualitative and quantitative aspects of the strategy to be clustered together. In this context the tools will be presented for measuring the strategy and these can be innovated by the members of the working groups and other strategic partners who will implement the strategy in the MBRS regions, selecting those which are most adequate for the socio-cultural conditions of each country.

At the end of the document, the indications and indicators will be presented upon which the follow-up actions will be based.

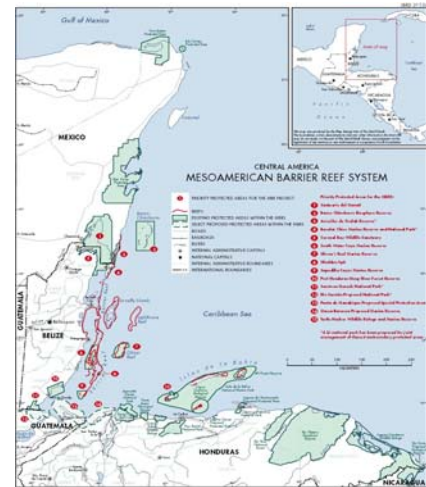
I. INTRODUCTION

Life on firm ground depends on the balance of the oceans, which cover over 70% of the planet's surface, these playing an important role in the maintenance of life support systems. We should acknowledge that the marine-coastal systems are sources of employment, transport, energy, tourism, recreation and proteins, through the food they produce, and that the associated ecosystems permit other economic, social and cultural activities which enrich the cultural diversity of the region.

The great importance of the Mesoamerican Barrier Reef System (MBRS) is evident then, and as a whole it has a rich diversity of coastal-marine species of great commercial value, these representing sources of employment and economic income for almost one million people who live directly inside its area of influence. (Silva, 2000)

Nevertheless, it is necessary to recognize that the MBRS coastal region is also the recipient of urban, agricultural and industrial waste, through the emission of wastewater, hydrocarbon spills, sedimentation, polluted waters from rivers and even atmospheric particles and molecules. In recent decades, the growth of the world economy and the accumulation of waste has placed extreme pressure on the capacity of the oceans to absorb this waste; a capacity which was previously considered to be unlimited. To all of this can be added the fact that some settlements consume resources so rapidly that future generations will probably receive very little.

The Mesoamerican Barrier Reef System (MBRS) is the second largest coral barrier reef in the world, extending from the Island of Contoy to the north of the Yucatan Peninsula in Mexico, to the Bay Islands in Honduras; including the continuous marine-coastal area of four countries: Belize, Guatemala, Honduras and Mexico. In this area it is very important to emphasize the high strategic value of its natural, socioeconomic, and cultural resources, which due to current evidence of over exploitation and bad use, absolutely need to be subject to appropriate management directed towards sustainable use. With this objective in mind, and as follow-up to the Tulum Declaration in 1997, the Project for the MBRS was born. It is an initiative which brings regional efforts together for the global purpose of promoting protection of this ecological system of worldwide relevance.



MBRS Regional Map

Uniting, reinforcing and coordinating the efforts of member countries and focusing on conservation and sustainable development in the regional sphere, the MBRS Project is being developed by the four participating countries on a local and regional basis, through the Project Coordinating Unit, depending on the Central American Environment and Development Commission (CCAD), implemented by the World Bank and with funding from the Global Environment Fund (GEF).

The MBRS Project promotes actions aimed at the management of Marine Protected Areas (MPA), wetlands, lagoons and strategic basins; the sustainable use of fisheries; and appropriate tourism, involving the local communities in administration, planning and management activities. It is necessary then to implement a broad Environmental Awareness Strategy which indicates the advantages and benefits of adopting the actions developed by the Mesoamerican Barrier Reef System Project. Therefore, this strategy seeks to promote a substantive change in vision and conduct in relation to the use of natural resources, through the social recognition of the value and need to conserve the resources available in the MBRS region. It is understood that an additional effect of this process is an improvement in the quality of life of its residents and the maintenance of the future basis of marine-coastal resources and the promotion of regional

action by means of social induction to a Regional Participation Movement for managing the environmental problem.

Based on the above, the Regional Environmental Awareness Strategy is a platform of action for the socio-environmental management of coastal-marine resources in the countries involved in the MBRS (fisheries, environmental monitoring, establishment of protected areas, tourism and use in transboundary areas, etc.), while at the same time permitting the promotion of the Project and its objectives.

2. STRATEGIC FRAMEWORK

2.1 Mission

To extensively and profoundly disseminate the value and need for conserving resources in the MBRS region, with the objective of achieving better conditions in the quality of life of residents, thus guaranteeing future availability of resources and inducing the active regional participation of the society.

2.2 Vision

For social groups to achieve knowledge, assimilation and the adoption of benefits and advantages resulting from the implementation of this strategy as an MBRS initiative in the region.

3. OBJECTIVES

To establish an awareness strategy which will contribute to achieving a change of attitude among the people living in the MBRS region, which will allow them to deal with their economic, cultural and food problem in a way which is compatible with local environmental capacities.

To design campaigns using the different media in order to reach the greatest possible number of users in the MBRS region, for the purpose of informing them about the fragility of the coastal-marine ecosystem, as well as the advantages and benefits of improving techniques for its use and conservation.

4. CONCEPTUAL AND METHODOLOGICAL FRAMEWORK

The analysis of contextual information about the region on the different relevant environmental, cultural and socio-economic aspects and subsequently the proposal and development of an awareness strategy is based on the holistic management of available resources in the area.

The concept of holistic management takes into consideration the fact that the use of resources should be based on the recognition and vision of the whole (environment), and from there, the different alternatives for solution should be approached which will allow scientific knowledge to be reached. This procedure is achieved through: a) the analysis and determination of the environmental matrix of a region, in other words, the part of the environment (beginning with the whole), which is susceptible and can be managed (by the residents); b) the definition, starting with this environmental matrix, of what users need in order to satisfy their development needs or objectives, and finally with the previous proposals, c) establishing that based on all the scientific knowledge available it is appropriate to achieve the development goals proposed. To summarize, for appropriately responding to the development needs of a region in the context of its available resources, the strategy consists of a recognition of the environment as a complex and dynamic entity, and that based on the determining, critical or significant aspects of this, it is

possible to establish which of the numerous scientific disciplines available is required for their continuous and successful management (Savory, 1999).

Based on this conceptual framework, the procedure is established for defining the strategy proposed, as well as the different awareness campaigns it is made up of.

The strategy as a whole will be established through the following methodological steps:

1. Definition of the mission, vision and objectives of the strategies and specific campaigns.
2. Contextual analysis of the situation in the MBRS member countries with regard to their environmental, socioeconomic-productive and cultural conditions.

In this stage the main characteristics of the four member countries are defined through a SWOT exercise (strengths, weaknesses, opportunities and threats), and through reviewing the updated literature, based on the problems of coastal-marine conservation. This stage will allow us to establish a base line with a supply of information, essential for formulating the Awareness Strategy.

3. Considering the problems, needs, possibilities and capacities in relation to the local and regional resources of the MBRS member countries, the general strategy is designed as well as the campaigns which will be derived from it, with the goal of achieving social participation and movement in the region in favor of recognizing the benefits and advantages in improving the quality of life and in maintaining resources, a product of the implementation of the MBRS initiative.
4. The resulting Strategy should be broad, flexible, inclusive and multiethnic; taking into account the passive, extensive and broadly penetrating methods for the target population, clearly identified through a prior analysis of the contextual situation of member countries.

5. CONTEXTUAL SOCIO-ENVIRONMENTAL ANALYSIS OF MEMBER COUNTRIES

In the preparation of the following tables "Contextual Situation by MBRS Member Country" the current problems of the countries in the MBRS region were concentrated on. Bibliographical data and interviews were used, joined with the opinion of experts in the preparation of the SWOT charts (strengths, weaknesses, opportunities and threats) (Tables I-IV). Subsequently, the common problems were analyzed, prioritizing them in accordance with the importance of the effects for the reality of the regions and the frequency of occurrence. Finally the problems were described, based on three central elements: ecological, socio-economic and cultural.

Contextual Situation by Participating Country

Chart 1. SYNTHESIS OF THE BELIZE SWOT ANALYSIS

STRENGTHS	WEAKNESSES	OPPORTUNITIES	THREATS
The existence of natural spaces with a high level of biodiversity	Lack of planning in environmental development at some levels of the government	Existence of a reef culture among the people	High level of pollution by wastewater, hydrocarbons and pesticides
Raising of foreign currency through local and international tourism	Lack of resources for carrying out environmental monitoring	Existence of an Integral Coastal Management Plan	Indiscriminate fishing by foreign fishermen
Coordination of efforts between the Government and the environmental NGOs of the region	Fisheries legislation not updated	Operational nature of the technical offices for studies and the preservation of the manatee and marine turtles	Disorderly urban growth
Support for environmental activities from the fishing cooperatives	Lack of political harmonization	Support for institutional reinforcement from the MBRS, WWF, TNC and other programs	Susceptibility to natural phenomena
Technical and professional capacity of the members of the organizations	Inappropriate industrial development and soil use		Border conflicts with neighboring countries
	Inappropriate management of ports and navigation practices for boats		Change in the trend of international cooperation

Chart 2. SYNTHESIS OF THE GUATEMALA SWOT ANALYSIS

STRENGTHS	WEAKNESSES	OPPORTUNITIES	THREATS
The existence of natural, institutional and human resources in the area	Precarious living conditions	Limited geographical extension of the marine-coastal area	Border conflicts with neighboring countries
Common ideals and objectives between the Government and the environmental NGOs of the area	Lack of material resources for monitoring, communication and coordination	Existence of a Port Contingency Plan	Trafficking of exotic native fauna abroad
Exchange of international experiences between civil support groups	Fisheries legislation is out of date	Recent technologies applied to the ports	Disorderly urban growth
Technical and professional capacity of the members of the organizations	Lack of trust and support among the environmental NGOs	Greater possibilities for political impact through networks and individually (using lobbying), taking advantage of annual seminars	Variation of inter-institutional policies operating in the coastal area
The existence of international cooperation	Violent social conduct and addictions among the population	Existence of a Network of Organizations as a new organizational form for dealing with the challenges of globalization and environmental, political, socio-economic and cultural vulnerability.	Bilateral and multilateral treaties not ratified
	Scarce ownership of the MBRS by the people	Support for institutional reinforcement by the MBRS and other programs	

Chart 3. SYNTHESIS OF THE HONDURAS SWOT ANALYSIS

STRENGTHS	WEAKNESSES	OPPORTUNITIES	THREATS
Availability of human and natural resources	Government centralization	Biodiversity strategy to be implemented soon	Increase in inadequate practices for disposing of waste
Existence of industrial port infrastructure	Non-compliance with regional and local planning	Tourism strategy to be implemented soon	Meteorological phenomena
Existing programs (experience)	Ignorance of environmental legislation by the people	Coastal tourism development in the near future	Adverse political changes
	Non-compliance with the Terms of the Environmental Studies	Strong international cooperation	Increase in over fishing
	Poverty		Environmental deterioration due to change in fishing techniques
	Health problems		
	Emigration		
	Illiteracy		

Chart 4. SYNTHESIS OF THE MEXICO SWOT ANALYSIS

STRENGTHS	WEAKNESSES	OPPORTUNITIES	THREATS
High level of urban infrastructure and equipment in the coastal area	Over fishing	Tourist developments in the near future (Costa Maya, Home Port, Playa Mujeres)	Hydro-meteorological phenomena
Active presence of human and natural resources	Pollution	Implementation of territorial management in the near future	High level of economic dependence on tourism
Planning in the use of natural resources (management programs) and in soil use (territorial management)	Bribery	Presence of governmental and non governmental, education and research institutions in the coastal communities realizing outreach activities and research projects	Decline of scenic attractiveness in the area
Social organizations – Cooperatives, associations, etc. (strong and representative)	Emigration: floating population	Presence of spaces in the mass media aimed at environmental issues	High level of pollution by wastewaters, hydrocarbons and pesticides
Existence of environmental regulation (Federal, State and Municipal)	Immigration		Proliferation of irregular settlements (camps) related to fishing
Existence of government education and research institutions and NGOs with interest in the marine-coastal problems	Non-compliance with strategic planning for development		
Coastal communities familiar with environmental problems	Non-compliance with conditioning factors in Environmental Impact Studies		
	Lack of knowledge of environmental legislation		
	Low levels of education		
	Scarcity of basic services in some urban and rural regions		

6. PRIORITIZATION OF COMMON PROBLEMS

6.1 Ecological Context

The Mesoamerican Barrier Reef System (MBRS) is 1000 km long, from the extreme north of the Yucatan Peninsula in Mexico, to the Bay Islands in Honduras. This system is considered to be a determining factor for the region due to the high value of its resources and at the same time a critical factor because of its many productive activities and their effects.

The importance of the barrier reef system is not only due to its scenic beauty, but also because of its functions, which are as follows: 1) a source of food; 2) a source of economic income; 3) a communication route for the people living in the coastal area; 4) it provides environmental services, among which are stabilization and protection of the coastal area, maintaining the quality of the water in the coastal area, and others; 5) it sustains species of commercial importance; and, 6) sites for breeding marine mammals, reptiles, fish and invertebrates.



*Cochinos key, Honduras
Lobster zone production
(Photograph Courtesy of SERNA)*

Common problems in order of priority in accordance with the data in Tables I-IV.

- Low level of knowledge of the problem of natural resources by groups of users
- Inadequate coastal development
- Pollution of the region mainly on the coastal area
- Non-compliance with environmental legislation
- Overexploitation of fisheries and use of fishing techniques having the effect of deteriorating the reef ecosystem
- Deforestation in the high basins and coastal mangroves
- Migratory agriculture on the increase
- Bad practices in recreational diving
- No clear regulation of tourist activities
- Inadequate boating and navigation practices
- Protected marine areas with little efficacy in their management activities



*Accelerated Coastal Development in
Quintana Roo
(Photograph Courtesy of UQROO)*

To reduce these problems measures and actions should be promoted which will eliminate incentives for unsustainable patterns of using resources, which are causing problems to the barrier reef ecosystem.

6.2 Socioeconomic Context

The coastal areas of the MBRS region, as strategic economic sites, have a fast growing population. In this area there are nine significant cities, requiring constant increases in public services, infrastructure, transport, electricity, tourism, communications and others.

So the population living at present in the MBRS coastal area is calculated at over one million (Silva, 2000); their level of well-being depends to a great extent on marine-coastal resources in the form of income from employment and direct consumption of resources for satisfying all types of needs (housing, food, recreation, etc.)

The economic activities in which the people living in the MBRS region are involved are mainly tourism, fishing, agriculture, cattle breeding and trade, and these are related to the following problems:

- Non-compliance with regional and local planning
- Lack of environmental awareness among the majority of the people
- Disorganized growth of urban settlements along the coast and coastal cayes
- Lack of political harmonization
- Border conflicts with neighboring countries
- Change in the trend of international cooperation
- Lack of technology and culture for the treatment of solid municipal waste and wastewater
- Low standard of living
- Large floating population (emigration)



*Tourism Activities increasing on the region
(Photograph Courtesy of HOLCHAN Marine Reserve)*

6.3 Culturally Differentiated Communities

In the MBRS region, as well as the significance of the value of natural resources, it is important to emphasize the importance of cultural resources. Approximately 18% of the inhabitants of the region belong to ethnic groups represented by 43 population groups belonging to 4 cultural roots (Creoles, Mestizos, Garifunas and Mayans) (CITA). In this context, one should also mention the lack of provisions in relation to the gender situation (women).

In accordance with documents produced by the MBRS Project, a gradual loss of traditional knowledge and practices of resource management is being perceived in these culturally differentiated groups. One of the central problems of these communities is how to deal with globalization, since they have no sound organizational systems, groups which predominate being based on similarity, family relationships, and moral leaders, involved in activities of internal consumption. In other words their organization is traditional and their economy is a subsistence one.

The central theme of campaigns for these groups should focus on the promotion of:

- Technical support in research and training



*Garifunas distributing fisheries products
(Photograph Courtesy of E. Fernandez)*



*Mayas Ketchi Working for the community benefits
(Photograph Courtesy of F. Salazar)*

- Actions in protected natural areas where these communities are involved and an increase in public participation in administrative, planning and management activities

6.4 General considerations

According to the analysis of the current situation in the MBRS, described in the previous paragraphs, two fundamental characteristics can be identified in the socio-environmental problems. Firstly, even though there is common ground, it is highly heterogenic (culture, legislation, etc.), and secondly its effects reach all areas of the daily life of the target population. Here we are referring to the groups of local inhabitants, tourists, entrepreneurs (tourist and industrial), governments and communicators.

Another important element is the multinational nature of the MBRS, which increases the complexity of implementing a single campaign, generalized to adapt to all the realities of each country, even when the scenic features and in some cases the cultural characteristics do not recognize political limits.

In general terms the issues which should be dealt with in the awareness campaigns should be from two viewpoints: *ecological, the value of the use and conservation of the system, and respect for cultural diversity.*

To be specific, the efforts of the awareness campaigns should do the following:

- Induce people to become involved in activities which guide actions towards conserving the health of the priority barrier reef systems of the MBRS, mainly to avoid and sometimes control pollution and deterioration
- Promote appropriate fishing models, respect for legislation and avoid over fishing
- Provide incentives for sustainable tourism and its benefits for local communities
- Promote the ecological and economic value of certified products, through successful experiences in other regions
- Promote the value of benefits resulting from the existence and management of protected natural areas in the MBRS region.



*Artisanal Fishermen's in Omoa
Photograph Courtesy of
E. Fernandez*

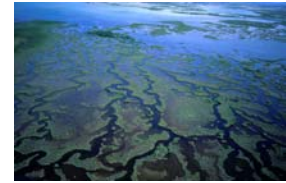
The Environmental Awareness Strategy is proposed as a complement to and as coordination for the Communication Strategy of the Mesoamerican Biological Corridor, with which it shares many aspects of implementation through common conceptual objectives and goals, although they are different geographically.

7. ESTABLISHMENT OF THE AWARENESS STRATEGY (ANNEX 1)

The Environmental Awareness Strategy, is based on a recognition of the value of resources in the MBRS region, and an analysis of ecological, economic and socio-cultural conditions, interviews with key actors and the prioritization of problems in the transboundary regions, through a SWOT analysis in the four countries involved (Mexico, Belize, Honduras and Guatemala).

The first step of the strategy will be to determine the target populations and other significant aspects, such as style of language, language and means. The environmental awareness strategy proposed is a composite one, using as the central element the benefits and advantages of adopting and implementing the MBRS initiative, through messages in clear, simple and direct language.

Considering the primary objectives already established in this MBRS initiative, the following population groups are suggested as those which require priority attention (target population):



*Wetland in Sian-Kan
Photograph Courtesy of
Humberto B. Suarez*



*Garifuna Fisherman of
Placencia, Belize
Photograph Courtesy of
E. Fernandez*

Chart 5. TARGET POPULATION

COMMUNITIES	Service providers Fishermen Domestic sector Important cultural groups
TOURISTS	National Foreign
GOVERNMENT	Local Regional National
INDUSTRIAL	Coastal Agribusiness Transformation Sea transport
PUBLIC IN GENERAL	
COMMUNICATORS	Written press, radio and television

The contextual adaptation stage of the methodology proposes to design dissemination material for distributing among the populations selected, in accordance with each group’s characteristics (language, style of language, culture, educational level and the identification of environmental icons), with information about the importance of the MBRS as an individual and collective resource of great importance, and the need to promote its conservation and sustainable use.

In the selection stage of the campaigns, those that should be implemented from the beginning are prioritized, this being done based on a prior consideration of the requirements, capacities, possibilities and local sociopolitical context of the target populations.

In the stage of campaign design the actions and materials are established, with details and schedules in order to assertively direct the campaigns which will be implemented in accordance with the context of the site and target population, already clearly defined in subsequent stages.

7.1 Selection of the best site for the initial implementation of campaigns

In order to guarantee the effectiveness of awareness raising efforts, it is considered relevant to develop it in stages, with concrete goals aimed at regions where there are common transnational problems. These micro regions, identified as *pilot sites*, are the Transboundary Protected Marine Areas (TPMA) and their corresponding areas of influence, specifically the Gulf of Honduras and the Río Hondo-Bahía of Chetumal-Corozal.

The development of the first actions in these pilot sites will allow a synergy to be reached between international efforts, the orientation of local and regional resources, and the impact of direct benefits on the target populations in these decisive areas, as well as the implementation of effective follow-up strategies of importance for effects of practical development of the MBRS actions in two of its significant areas, in accordance with the opinion of the member countries. In a second stage of the Strategy, the experiences reached in the pilot sites will allow planning to be established and a new strategy for increasing the area of action of the campaigns through reproduction of successful aspects.

To determine the effectiveness of the campaigns of the Environmental Awareness Strategy, it is necessary to provide effective follow-up to the program of indicators, which will permit an evaluation of the degree of success, through different time frames (short, medium and long term), as well as the necessary feedback to the initial proposal.

8. BREAKDOWN OF THE CAMPAIGNS

Chart 6. *BREAKDOWN OF THE CAMPAIGNS*

PROPOSAL FOR THE IMPLEMENTATION OF INFORMATION FOR THE MBRS TARGET POPULATIONS			
Target Population	Activity to be developed and information to be disseminated	Appropriate time for dissemination	Channels Proposed
General Public	General information on the MBRS and the Project itself	The whole year, especially on commemorative days	>All the ways possible >MBRS stamp album >Official correspondence (receipts, bank statements, etc)
Tourism Service Providers	Sustainable tourism campaign	One month before high tourist seasons in the member countries	>Tourist bulletins >Forums >Chambers of Commerce, associations related to the activity >Television >Press and Internet
Tourists	Rules for the use of protected areas. Rules for maintaining the health of marine-coastal ecosystems	The whole year, especially high seasons	>Inserts in specialized magazines >Promotional bulletins >Radio >Newspaper >Posters >Placards

PROPOSAL FOR THE IMPLEMENTATION OF INFORMATION FOR THE MBRS TARGET POPULATIONS			
Target Population	Activity to be developed and information to be disseminated	Appropriate time for dissemination	Channels Proposed
			>Billboards >Links and other Internet channels
Decision makers and community leaders	Environmental legislation, political strategies on environmental integration	The whole year, especially during meetings with the associations, NGOs, Judges and Municipal Mayors	>Reports >Internet >Training workshops >Direct contact >Radio >TV
Industrial sector	Measures for mitigating pollution. Recycling campaign	Throughout the whole year, especially in the industrial fairs and in the months of high productivity due to more demand	>Radio >Newspapers >Posters >Fliers >Workshops
Domestic sector	Measures for mitigating pollution. Recycling campaign	Throughout the whole year	>Radio >Newspaper >Television >Fliers
Sea transport	Measures for mitigating pollution	August, September, October, December, January and February (periods with a high level of trade)	>Posters >Stickers
Culturally differentiated communities	Community participation plan. Alternative income Co-management of the PMA	The whole year	>Calendars >Posters >Radio >Workshops >Caps >T-shirts
Fishermen	Appropriate fishing campaign Co-management techniques for fisheries resources	The whole year	>Posters >Calendars >Stickers >Radio >Television >Newspaper >Workshops >Billboards
The Media	Awareness raising through newspaper competitions. Photography competition, slogans for campaigns, acknowledgments	The month of Earth Day	>Radio >Television >Newspaper >Internet

9. SPECIFIC DEVELOPMENT OF EACH CAMPAIGN

9.1 Prioritization of Campaigns

High priority campaigns

- PRESS
- INTERNET
- RADIO
- WORKSHOPS
- PHOTOGRAPHY COMPETITION
- ALBUM

Medium priority campaigns

- TRAINING AND DIRECT CONTACT
- BILLBOARDS
- DIFFERENT FORUMS AND OCCASIONAL THEMATIC MEETINGS
- MEETINGS OF CHAMBERS OF COMMERCE
- CONSERVATION MESSAGES ON SERVICE PAYMENT RECEIPTS
- BANK STATEMENTS
- POSTCARDS
- POSTERS
- STICKERS
- CALENDARS
- CAPS
- T-SHIRTS

Low priority campaigns

- GUIDES FOR THE GOOD TOURIST
- TOURIST BULLETINS
- MAGAZINES FOR DISSEMINATING TOURISM SERVICES
- TELEVISION

1. PRESS

Strategy

- Insert short items in the newspapers with highest circulation and credibility in the MBRS region

Target population

- Public in general

Activity to be developed

- Generate a series of brief articles that can be inserted in newspapers with regional circulation. If the cost allows, have an article in the form of a weekly publication supplement.

Information to be disseminated

- Extensive information on MBRS activities, for the purpose of giving complete information to the people about the progress of the initiative, including information on the importance of conserving the barrier reef and the consequences of bad use and overuse, as well as on the results of some research done in the area.

Style of language

- Simple and colloquial.

Language

- In English, Spanish, Mayan and Garifuna.

Best time for implementation

- Preferably during the peak tourist season and before fishing periods.

Special considerations

Comments

- To take advantage of previously established spaces for the publications of MBRS partner institutions.

Method of distribution

- Graphic and text

2. INTERNET

Strategy

- To use the current MBRS web page to continuously disseminate and up-date the local and regional benefits of MBRS Project actions.
- To put links to the MBRS web page and informative inserts on the web pages of entities related to cultural, environmental and tourist issues,.

Target population

- Public in general

Activity to be developed

- A pleasant channel of dissemination through the current MBRS web page and those related to the social, cultural and tourist promotion issues.

Information to be disseminated

- To present as pleasantly as possible, information on sites that can be visited in the MBRS region, the way they need to be looked after, with special emphasis on the importance of taking actions on the matter from all levels. All the above should be done in such a way that it is understood as a special invitation to careful use and conservation in an area of great ecological importance.

Style of language

- Simple, assertive and with graphical reinforcement.

Language

- In English, Spanish (Mayan and Garifuna)

Best time for implementation

- Throughout the year

Special considerations

- The way the target population is notified of the existence of the page can be through billboards at sites usually visited by them. As well as information on the MBRS, the page is considered to be an ideal tool for publishing acknowledgments of enterprises or institutions, MBRS achievements and successful related actions. The MBRS page can include links to other related sites. Moreover, it can be used as a tool for the follow-up of campaigns through the implementation of electronic “questionnaires” such as “*How did you find out about the existence of the page?*” and directories of contacts.

Comments

Method of distribution

- Electronic

3. RADIO

Strategy

- To disseminate messages in radio programs with an extensive broadcast, as well as contracting spots at peak times.

Target population

- Public in general

Activity to be developed

- To broadcast spots on the main radio stations in the region during peak tourist seasons, mainly national tourists, as well as contacting people from the radio for them to consider mentioning MBRS messages in their programs so that they can transmit messages continuously throughout the year.

Information to be disseminated

- To inform about the natural resources of the MBRS, the main care that should be taken during their stay and the responsibility of the inhabitants of the area in using its resources.

Style of language

- Simple and assertive

Language

- In English and Spanish. There are some programs for specific linguistic groups (eg. Turkish radio in Mexico, a program in Mayan from 04:00 to 06:00). This situation should be identified in each of the member countries and be part of the local strategy for developing the campaign.

Best time for implementation

- In accordance with the opinion of the person responsible for broadcasting the messages. For those contracted it will be necessary to adequately select the period during which they will be broadcast in order to reach the largest resident or potential audience in the area.

Special considerations

Comments

Method of distribution

- Auditive

4. THEMATIC PHOTOGRAPHY COMPETITION

Strategy

- Photography Competition

Target population

- Personnel from the media and professional or amateur photographers.

Activity to be developed

- To invite those who might be interested to participate in a photography competition on the scenic attributes, landscapes and resources in general in the region, as well as emphasizing the benefits and advantages of implementing the MBRS initiative in the area.

Information to be disseminated

- The basis of the competition, set out in detail, through a small campaign with people in the media, inviting them to participate in the competition to be held in each of the participating countries.

Style of language

- In this case it is not a problem and a technical style of language can be used if necessary.

Language

- In English and Spanish (Garífuna, Mayan)

Best time for implementation

- It should be at the beginning to achieve the objective of collecting material to be used in the other campaigns.

Special considerations

Comments

- In a campaign of this kind, a large amount of graphic material is generally used, especially photographs, so the objective of the photography competition is to obtain the materials to be used in the remaining campaigns.

Method of distribution

- All forms.

5. ALBUM

Strategy

- Stamp album with stamps referring to the natural, social and historical characteristics of the MBRS (they could be photographs or drawings).

Target population

- Public in general, mainly children and collectors.

Activity to be developed

- To design and distribute a stamp album which can be given out in newspapers and magazines.

Information to be disseminated

- A large number of informative messages, samples of MBRS resources and their importance, as well as advice on conservation, best and respectful use.

Style of language

- Simple, mainly graphic.

Language

- In English and Spanish, preferably bilingual, including the languages of culturally differentiated groups.

Best time for implementation

- Mainly during the first stage of the Awareness Strategy.

Special considerations

Comments

- A large number of images obtained from the photography competition can be used as a source of materials. It might be possible for some of the newspapers with the largest circulation to give out the stamps, together with other ways which would not imply substantial expenses for the initiative (through agreements), this being an attraction for the entity disseminating it. In relation to the possibility of using drawings, the process could be the same as with photographs, asking graphic artists (cartoonists, illustrators) to contribute to the initiative by donating an image referring to the MBRS, its use and conservation.

Method of distribution

- Through newspapers and magazines, inserting them in each item sold at newsstands.

6. WORKSHOPS

Strategy

- To hold educational and participatory workshops in the culturally differentiated communities, for giving training on the most responsible use of the environment, on community organization strategies, project management and administration. Furthermore, to inform about productive projects and technical support. In socio-environmental aspects the actions would refer to issues related to child health, wastewater treatment, etc.

Target population

- Culturally differentiated communities

Activity to be developed

- Information workshops in the communities, using anthropological work methodologies with the communities, for example: participatory planning, community mapping, etc.

Information to be disseminated

- Environmentally and socially responsible forms of community organization.
- Economic alternatives to the problem of natural resources.
- Invitations from institutions which support productive projects related to the characteristics of the communities.
- Dissemination of formats for obtaining technical support for training through other agencies and programs.
- Dissemination of information about meetings which support projects for women.
- Human health

Style of language

- That which is used in the communities where dissemination will be implemented.

Language

- The same as the one used by the target population.

Best time for implementation

- In accordance with the day by day calendars of the sites. (Eg periods of low productive activity).

Special considerations

- It is important to make clear in the culturally differentiated communities that this dissemination campaign will only send notices and announcements of workshops, for them to arrange resources for technical training and productive projects both for men and for women, and not be directly responsible for the allocation or execution of resources (the function of the activity is to facilitate). Furthermore, the campaign also disseminates information which will facilitate the assimilation of the socio-environmental responsibility of the communities and the benefits of a change of attitude and/or behavior in the context of the MBRS objectives.

Comments

- It is important to promote feedback at the end of the workshops.

Method of distribution

- To coordinate the actions with the authorities (civil, moral, etc.) or establish links with another program (it could be another component of the MBRS) which is developing similar actions.

7. DIRECT CONTACT

Strategy

- Direct communication with the target population in formal and informal activities.

Target population

- Public in general

Activity to be developed

- To hold a series of lectures or talks on festive days, eg. "Earth Day" April 22), "Environment Day" (June 5), joining with other institutions to use spaces available for this.
- Cleaning activities in the coastal area.
- To prepare signs saying, for example: TAKE CARE OF YOUR COAST, PUT GARBAGE IN ITS PLACE
- Talks, lectures on festive days which can be linked to participants in other MBRS components.

Information to be disseminated

- The importance of the Mesoamerican barrier reef system, focusing the lectures on different areas:
 - Marine biodiversity
 - Marine contamination
 - Fauna in the region
 - Flora in the region
 - Socio-economic situation in the area
 - Culturally differentiated communities
 - General video of the MBRS

Style of language

- That which is appropriate for each region and target population where activities are carried out.

Language

- Spanish, English and the languages of the culturally differentiated groups.

Best time for implementation

- The existing festive days that can be used are:
 - Earth Day (April 22)
 - Environment Day (June 5)
 - Water Day
 - Barrier Reef Day (establish one if necessary)

- Children's Day (give away free gifts in schools to children: rulers, notepads, pencils, the stamp album, mascots preferably made out of recycled or biodegradable materials, etc.)

Special considerations

- It is important to have good connections between agencies and those responsible for the organization of these events in order to achieve the objective.

Comments

- On the dates indicated above there are always events in the schools so it would be possible to use these opportunities, as well as the expenses and activities that could be shared.

Method of distribution

- To make invitations for participating in the activities through posters, leaflets, radio spots.

8. DIFFERENT FORUMS AND OCCASIONAL THEMATIC MEETINGS

Strategy

- To present material at the meetings of different groups.

Target population

- Different associations and potential groups with non-periodical meetings.

Activity to be developed

- To prepare presentations that can be shown at meetings of groups of actors, and to take advantage of the captive audience for distributing a large amount of graphic material.

Information to be disseminated

- Information on the consequences of badly developed activities and the method of attacking or preventing them.

Style of language

- Simple style of language which can be slightly technical.

Language

- In English and Spanish, it being worthwhile to have material in other languages in this case too.

Best time for implementation

- Variable, depending on the periods when meetings are held.

Special considerations

Comments

- Many of the main actors are notified about meetings of the different groups in the region and it is the right time to send them the information, either through the presentation of material prepared specifically for this purpose or by distributing graphic material from other campaigns.

Method of distribution

- Direct (see previous activity).

9. MEETINGS OF THE CHAMBERS OF COMMERCE

Strategy

- To present specific material for the meetings of the chambers of commerce (associations related to economic activities).

Target population

- Providers of tourism, transport, navigation, fishing industry and petroleum services.

Activity to be developed

- To prepare synthetic presentations which can be shown at chamber of commerce meetings.

Information to be disseminated

- Information on the natural processes present in the region, their importance and the consequences of poorly developed commercial activities and the way to prevent them.

Style of language

- Simple language, it being possible to include some technical concepts.

Language

- In English and Spanish

Best time for implementation

- It should be done during the periods when meetings are held.

Special considerations

Comments

- Many of the main actors are notified about meetings of the chambers of commerce and it is the right time to send them the information, either through the presentation of material prepared specifically for this purpose or by distributing graphic material from other campaigns.

Method of distribution

- Direct talks with the target public and controlled exhibitions both active (presentations) and passive (posters and leaflets).

10. CONSERVATION MESSAGES ON SERVICE PAYMENT RECEIPTS

Strategy

- To insert leaflets with brief messages on the conservation of natural resources in institutional correspondence (banks, associations, networks, etc.).

Target population

- The public in general in the cities and rural community centers.

Activity to be developed

- To contact the local authorities for getting permission to insert short messages on the conservation of MBRS resources on service receipts.

Information to be disseminated

- Simple information with a few words about the importance of MBRS actions for the environment.

Style of language

- Simple, non-technical, concise and assertive.

Language

- In English and Spanish
- Many of the main actors are notified about meetings of the different groups in the region and this is a good time to send the information to them, either through the presentation of material prepared specifically for this purpose or by distributing graphic material from other campaigns.

Best time for implementation

- Throughout the whole year

Special considerations

Comments

- Service receipts are distributed in urban populations, such as receipts for water, electricity, telephone, etc, and it would be possible to insert a simple direct message about the strategy.

Method of distribution

- Ordinary post or any other means of delivery already established for this type of correspondence, and web pages of the companies involved.

11. ECOLOGICAL INFORMATION IN BANK STATEMENTS

Strategy

- To insert information on the MBRS in bank statements.

Target population

- Account holders

Activity to be developed

- To develop a simple bulletin which can be inserted in bank statements that are sent to clients every month.

Information to be disseminated

- To inform this segment of the population about the main procedures for taking care of the MBRS, as well as suggesting sites for visiting and service providers who can give environmentally friendly attention. In general, this is the group of people that can make trips during their vacations and therefore participate in a large number of activities in the places they visit.

Style of language

- Simple, but with plenty of regional characteristics.

Language

- In Spanish and English. It should be bilingual.

Best time for implementation

- Essentially just before the vacation period.

Special considerations

Comments

Method of distribution

- Through the distribution channels of the companies or banks.

12. POSTCARDS

Strategy

- Design and distribution of postcards.

Target population

- Offices, travel agencies, government offices and the public in general.

Activity to be developed

- To design postcards of a very good graphical quality informing about the importance of the MBRS and the ways of looking after resources in the region.

Information to be disseminated

- Information aimed at inviting people to enjoy and be informed about ways of participating in caring for resources.

Style of language

- Simple and preferably very graphic (with considerable visual impact).

Language

- In English and Spanish (Mayan, Creole, Garifuna)

Best time for implementation

- Preferably during the high tourist season and prior to fishing periods.

Special considerations

Comments

Method of distribution

Variable, occasional and in forums, sites visited by the MBRS users.

13. POSTERS

Strategy

- Design and distribution of posters.

Target population

- Offices, travel agencies, government offices and the public in general.

Activity to be developed

- To design posters with very good graphic quality which inform about the importance of the MBRS and ways of looking after the resources in the region.

Information to be disseminated

- Information aimed at inviting people to enjoy and be informed about the ways of participating in caring for it.

Style of language

- Simple and preferably very graphic (with great visual impact).

Language

- In English and Spanish (Mayan, Creole, Garifuna).

Best time for implementation

- Preferably during the high tourist season and before fishing periods.

Special considerations

Comments

Method of distribution

Variable, occasional and in forums, sites visited by MBRS users.

14. STICKERS

Strategy

- Design and distribution of stickers.

Target population

- The public in general, mainly fishermen and tourist service providers, as well as all those who would allow broad dissemination of these materials (eg tourist transport, partner institutions, taxis, etc).

Activity to be developed

- To design stickers with very specific ideas (slogans) and images (eg flag species) associated with the MBRS, in a way that will permit the message of resource conservation to be positioned.

Information to be disseminated

- Very short, simple messages on conservation of the MBRS and our commitment to a sustainable future for the area.

Style of language

- Very specific rather than simple.

Language

- Spanish, English and the languages of culturally differentiated groups.

Best time for implementation

- The whole year

Special considerations

- Since these are passive means of dissemination but broad in scope, it is strongly suggested that long lasting materials be used for their manufacture (at least on an annual basis).

Comments

Method of distribution

- Through associations, authorities, tourism service providers.

15. CALENDARS

Strategy

- Design and distribution of calendars.

Target population

- Public in general

Activity to be developed

- Calendars will be designed for distributing in events related to the conservation of the MBRS.

Information to be disseminated

- It is suggested that this be informative in nature on the resources of the MBRS, directly emphasizing the important dates of MBRS activities to be held that year.

Style of language

- Simple and preferably colloquial.

Language

- Spanish, English and the languages of culturally differentiated groups.

Best time for implementation

- At the end of the previous year and right at the beginning of the calendar year.

Special considerations

Comments

- Distribution could be at the beginning of the year, although the design can be adapted depending on the period when they are delivered.

Method of distribution

- Important events, service providers, etc.

16. CAPS

Strategy

- Design and distribution of caps.

Target population

- Fishermen and tourism and transport service providers.

Activity to be developed

- Design, production and distribution of caps.

Information to be disseminated

- Short messages or ideas on the existence and importance of the MBRS, and how to contribute to conserving its resources; also, the significant importance of joining efforts aimed at the sustainable development process in the area being promoted by the MBRS initiative.

Language style

- Simple and preferably colloquial.

Language

- Spanish, English and the languages of the culturally differentiated groups.

Best time for implementation

- Before the period of greatest activity, during events related to fishing and tourism activities in accordance with MBRS principles.

Special considerations

Comments

Preferably long-lasting materials.

Method of distribution

- In events which are in agreement with MBRS principles.

17. T-SHIRTS

Strategy

- Production of t-shirts.

Target population

- Communities with very low income, fishermen, tourist and transport service providers.

Activity to be developed

- Design and distribution of t-shirts with MBRS messages.

Information to be disseminated

- Information on the ways they can benefit if they join in with MBRS activities.

Style of language

- Preferably colloquial

Language

- In English and Spanish

Best time for implementation

- The whole year

Special considerations

Comments

Preferably long-lasting materials.

Method of distribution

- At work meetings in culturally and economically differentiated communities, during conservation activities (eg cleaning beaches, workshops, etc).

18. BILLBOARDS

Strategy

- Creation and placement of billboards.

Target population

- The public in general

Activity to be developed

- To choose the design for billboards.

Information to be disseminated

- Messages on the importance of conserving marine-coastal resources, general information and information on MBRS actions.

Style of language

- Simple and direct.

Language

- Spanish, English and the languages of culturally differentiated groups.

Best time for implementation

- The whole year (depending on the availability of financial resources).

Special considerations

- Due to the high cost it is necessary to evaluate the location of these very well (eg traffic lights, car parks, etc.) since the number will be limited.

Comments

Method of distribution

- Placement in affluent areas of MBRS resource users, for example: roads with a lot of traffic or with a high population density (shopping centers).

19. GUIDES FOR THE GOOD TOURIST

Strategy

- Informative cards for tourists on “codes” of behavior in recreation activities (Protected Marine Areas and the different MBRS ecosystems).

Target population

- National and foreign tourists and visitors.

Activity to be developed

- To inform tourists through tourism service providers, about responsible ways of participating in activities in the MBRS region.

Information to be disseminated

- Information which will induce the tourist to reduce the possible negative effects of his activities on the environment.

Style of language

- Simple and assertive.

Language

- In English, Spanish and others associated with the market niches visiting the region.

Best time for implementation

- Before and during the high tourist season.

Special considerations

Comments

- The service providers employed as a means of distribution play an important role in educating tourists and vice versa. The campaign can be completed with an instrument for collecting the tourists' comments on the content of the material and the way the providers are applying it.

Method of distribution

- In travel agencies and with tourism service providers.

20. TOURIST BULLETINS

Strategy

- Informative bulletins for tourists who are traveling specifically to the Caribbean.

Target population

- National and foreign tourists

Activity to be developed

- To develop graphic material which can be distributed in the different areas where tourists in the region look for information.

Information to be disseminated

- To inform about the resources of the MBRS region and the care and measures that should be adopted during their stay.

Style of language

- Simple and with some technical data.

Language

- In English and Spanish, but it is essential to have material in other languages (market niches).

Best time for implementation

- Throughout the whole year and especially one month before peak periods.

Special considerations

Comments

- The material that is normally given to tourists has a high graphic content and in this campaign a great deal of attention should be given to graphic quality and the content of the messages.

Method of distribution

- Printed in strategic sites with a lot of tourists, for example: Sea, land and air terminals.

21. SPECIALIZED AND GENERAL TOURISM MAGAZINES

Strategy

- To insert graphic material in magazines and give small promotional news bulletins to tourists at airports, travel agencies, etc.

Target population

- National and foreign tourists and service providers.

Activity to be developed

- To develop graphic material which can be inserted in the promotional material given to tourists, in the different sources of information they look to for planning and developing their activities, as well as in magazines which specialize in the activities of the region.

Information to be disseminated

- To inform on the resources (natural, cultural, historical) of the MBRS area and the main measures and care that need to be taken during their stay.

Style of language

- Simple and assertive

Language

- In English and Spanish, but here it would be essential to have material in other languages in accordance with the market niches identified for the region.

Best time for implementation

- Throughout the whole year, and especially one month before peak periods.

Special considerations

Comments

- The magazines and materials given out to tourists have a high level of graphic content and in this campaign a great deal of attention should be given to graphic quality and to the content of the messages.

Method of distribution

- Printed and in strategic sites (internet, airline magazines, hotels and restaurants).

22. TELEVISION

Strategy

- To present short messages in programs extensively broadcast on TV, preferably during peak viewing times.

Target population

- The public in general

Activity to be developed

- To establish agreements with those responsible for the television media so that they can insert short but very important messages about the MBRS in their broadcasts, whether they be promotional material or as part of the content of normal programs.

Information to be disseminated

- To inform about the resources of the MBRS area, the main care that should be taken during the visitor's stay and the responsibility of the inhabitants of the region in relation to looking after their natural resources.

Style of language

- Simple and assertive

Language

- In English and Spanish (Garifuna and Mayan).

Best time for implementation

- Depending on the opinion of the person responsible for placing or disseminating the messages, but preferably at times identified as being peak times for audiences.

Special considerations

Comments

- Contacts with local television channels should be promoted through coordination among MBRS partners, giving special emphasis to channels with extensive regional coverage.

Method of distribution

- Mass media.

10. CONDITIONS NECESSARY FOR THE STRATEGY TO BE SUCCESSFUL

10.1 Implementation

For implementing the campaigns (**ANNEX 1**) the following is recommended:

- A list of key or contact persons will be prepared and these people will be invited to a meeting for the purpose of informing them about the MBRS Environmental Awareness Strategy.
- Formal presentation of the strategy.
- A list of those involved (recruitment) who will be participate in campaign activities.
- Reproduction, this referring to the people who begin implementing the campaign.
- Evaluation of the campaigns, providing follow-up to the campaigns and an evaluation of the design phase, for the purpose of improving them.

The campaign should be managed within a framework of preventing and correcting negative impacts on marine ecosystems and promoting the value of conservation. It is suggested that the strategy also take into consideration educational activities which illustrate and dramatize the marine-coastal problem, with colloquial and very clear language so that the target populations can assimilate it directly. Furthermore it is suggested that important local and international persons with a good public image participate and support the awareness raising messages. The messages generated through the activities of the strategy should reinforce the individual and collective perception that each individual has the capacity to support the initiatives of protection and sustainable use of the MBRS and that by getting involved, they will be generating a source of income, health, their personal well-being and that of their descendents.

The success of the awareness strategy for the MBRS will depend on the Project keeping the strategic organizations well-informed about the development of the different campaigns, the evaluation of their effectiveness and the adaptation measures that it might be necessary to adopt for reaching the original objectives and goals.

Another complementary aspect for contributing to the success of the campaigns consists of training teachers, local authorities and community leaders on key MBRS concepts through simple and easily reproducible workshops.

Furthermore, it would be very worthwhile to further the participation of other groups: local sports clubs, fishermen's associations, women's associations, NGOs, tourism entrepreneurs, local and national politicians, as well as important persons with a good public image. Important synergies should be defined in other similar projects which complement it, for instance: The Mesoamerican Biological Corridor.

In the case of messages to be transmitted through the mass media, it is recommended that these be prepared using the slang and regional linguistic expressions of each country.

It is also a good idea to broadly communicate the successes and challenges resulting from the implementation of awareness raising campaigns to the main decision makers and public opinion leaders in the region. Moreover, this same information should also be thoroughly and extensively disseminated in the main mass media in each of the MBRS member countries.

10.2 Flag Species

It is considered significant for the purposes of this strategy to identify the flag species present in the region, which will be of use as distinctive elements for the area and at the same time for the development strategy promoted by the MBRS. These elements of local/regional identification or natural icons characteristic of the region can be used in the preparation of promotional materials for distributing in schools, offices, shopping centers, places receiving a large number of tourists, etc. Therefore the most representative or charismatic flag species in the region should be determined (for instance: Caribbean manatee, lobster, sea turtle, dolphin, queen conch) and their image should be used intensively in local and regional events, preferably in large events or with a large public or number of visitors in the context of the coastal-reef area.

11. SCHEDULES

11.1 Schedule for Strategy Actions

Chart 7. Schedule for Strategy Actions

ACTIVITIES	YEAR 1 (QUARTERS)				YEAR 2 (QUARTERS)				YEAR 3 (QUARTERS)				YEAR 4 (QUARTERS)				YEAR 5 (QUARTERS)			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1. Publication of the strategy.					■															
2. Dissemination of the strategy among the national representatives corresponding to the pilot sites.					■															
3. Establishment of consensuses and agreements with the social institutions participating in implementing the strategy.					■															
4. Adaptation to the methodology (campaigns and follow-up) according to the micro regional reference framework.					■															
5. Establishment of the current situation in the context of the strategy and the micro regional framework.					■	■														
6. Presentation of the work programs of the institutions participating in implementing the strategy.					■	■														
7. Beginning of the campaigns.						■	■	■	■	■	■	■								
8. Stage 1: Strategies related to raising the awareness of the target populations.						■	■	■	■	■	■	■								
9. Follow-up 1: Awareness raising.							■	■	■	■	■	■								
10. Stage 2: Strategies related to a change of attitude in the target populations.								■	■	■	■	■								
11. Follow-up 2: Change of attitude.											■	■	■	■	■	■				
12. Stage 3: Strategies related to the new behavior of the target populations.															■	■	■	■	■	■
13. Follow-up 3: New behavior.																				
14. Meetings for evaluating the goals of the strategy and adaptation for the following period.								■				■				■				■
15. Final evaluation stage of the strategy in the pilot sites and planning for its continuation over the following five years.																				■

11.2 Description of the activities contained in the Schedule

In accordance with the guidelines proposed for developing the Project for the Mesoamerican Barrier Reef System, one of the priority actions for achieving the conservation of natural resources is considered to be a change in the socio-environmental behavior of the target population, so during the life of this initiative actions related to this are being considered. The function of this document is to provide the guidelines for an initial strategy to be implemented in two “pilot” sites. So it is understood that on the basis of lessons learned efforts can be made in other areas not being considered in this initial effort.

The activities described in the schedule are proposed as a general overview containing the framework of actions directed at achieving the objectives of the strategy. This effort in the MBRS region is not the only one in time or in objectives, so actions should be taken for inter-institutional coordination and linkage and for ensuring the continuity of actions during a period longer than the time frame of this strategy.

Description of the actions to be implemented:

1. Publication of the strategy. As an initial activity and to facilitate knowledge of the strategy by the MBRS partners, it is necessary for this document to be institutionalized through its publication and thus to facilitate its dissemination.
2. Dissemination of the strategy among the national representatives corresponding to the pilot sites. The Regional Coordination Unit of the MBRS will establish the corresponding actions for the strategy to reach the national coordinators and agencies working in the “pilot” sites. At the same time they will be responsible for identifying, informing, inviting and coordinating the institutions which are being considered for implementing it.
3. The establishment of agreements with partner institutions participating in the implementation of the strategy. Once the partners are informed about the strategy, it is necessary to identify the ways in which efforts can be made viable in the activities of each institution, as well as determining the capacities of each one for participating.
4. Adaptations to the methodology (campaigns and follow-up), according to the micro regional reference frame. Since this instrument is general in nature, after learning about it as a planning exercise, it is necessary for the partners participating in implementation to evaluate its capacities and the micro regional reference framework, about which they know more, in order to adapt the strategy to the corresponding realities.
5. The establishment of the current situation in the context of the strategy and in the micro regional reference framework. For effective implementation of the strategy, it is necessary to identify the problem, extended to the micro regional scale, together with the participating institutions, for the purpose of establishing the situation prior to the beginning of the campaigns, or in other words the “ZERO” situation. This activity is considered to be of vital importance for actions of implementation, this being the main input for the follow-up and evaluation of goals.
6. The presentation of the work programs of institutions participating in implementing the strategy to the National Coordination Unit. Ideally this could be done in a meeting of the National Barrier Reef Committee. Activities 4 and 5 and other components that are necessary, will be included in an economic technical proposal that the implementers will present to the National Coordination, as a guide for specific actions that in addition or as a complement will be coordinated for each Pilot Site. The campaigns and follow-up/evaluation mechanisms, based on what is established in this document, should be included in this local proposal, as well as actions of linkage, coordination and the draft

budget for implementation. From the economic perspective, the MBRS Project covers only the basic funding for some of the main activities, so it will be the national and local institutions that should consider their capacities for developing some of the activities proposed in this document, or ones which are complementary to this strategy. This consideration should be both in relation to the number of activities or actions, prioritization of their execution, as well as in the depth and extension of their implementation.

7. Beginning of the campaigns.
8. Stage 1: Strategies related to raising the **awareness** of the target populations. In this first stage of the strategy, the actions to be implemented should place special emphasis on the socio-environmental awareness of the target population. The campaigns prioritized and proposed in this document should be taken as a guide.
9. Follow-up 1: Awareness. After finishing stage 1, it is considered necessary to implement actions to evaluate the change in socio-environmental awareness in the micro regions, in accordance with the clause on follow-up and considering the previously established "Zero" situation. To the extent that this document is considered to be flexible, after this first evaluation there is a possibility for programmatic adaptations to implementation as a result of the success or failure of the previously developed actions.
10. Stage 2: Strategies related to a **change of attitude** in the target populations. After the results obtained in stage 1, stage 2 considers a higher level of internalization of conservation efforts in the target population. In this way, the goal of this second stage is to generate changes in the socio-environmental attitude of the target population. Just as in stage 1, the campaigns established in this document should be considered as guides.
11. Follow-up 2: Change of attitude. This takes into account as points of departure the results of follow-up 1, the campaigns implemented in point 11 and the indicators for follow-up contained in this document. This follow-up refers to the evaluation of the change of attitude achieved in the target population as an effect of the strategy. In the same way, after the evaluation there is a possibility for change in the programs of the implementers as a result of the success or failure of the actions.
12. Stage 3: Strategies related to **new behavior** of the target populations. In this third stage a higher level of internalization of conservation efforts is considered among the target populations, under the assumption that behavior follows attitude. In this way, the goal is to generate new behavior related to the management of the environment and the social situation of the target population.
13. Follow-up 3: New behavior. Considering the results of follow-up 2 as a point of departure, this third follow-up refers to the evaluation of the new behavior achieved in the target population as an effect of the strategy. During this final stage, it is necessary to determine the actions that will be necessary so as not to lose the progress achieved up to that point, so one of the results expected will be in the context of continuity of efforts in the pilot sites. Due to this first experience, the implementers will be in the right conditions to propose the additional characteristics that the MBRS Environmental Awareness Strategy will have after the first five years.
14. Meetings for evaluating the goals of the strategy and adaptations for the following period. It is considered important that the implementers be in contact with each other and with the Project Coordination Unit, so as well as normal correspondence, it will be necessary to hold working meetings for providing follow-up to the goals of the strategy.

15. The final evaluation stage for the strategy in the pilot sites and planning for its continuation over the following five years. As a result of follow-up efforts, the evaluation meetings and recommendations of the implementers, it will be possible to develop a strategic plan to expand the Awareness Strategy to the whole MBRS region.

12. STRATEGY EFFECTIVENESS INDICATORS

The evaluation and follow-up of the MBRS Awareness Strategy requires the preparation of a system of indicators (composite) which will allow the qualitative and quantitative aspects of the strategy to be grouped together, such as social elements (community organization, use of space), economic elements (basic family shopping basket, economy and services), political elements (legislation, decision making), and personal elements (intangible concepts, ideas, attitudes, awareness and behavior).

It takes time to change attitudes and ideology, so it is difficult to expect that measuring a change of behavior in the short term will reflect the effectiveness of efforts to raise awareness. It could be that the target population does not even recognize the socio-environmental problem generated by their actions, no matter how small, let alone acknowledge the need to make changes in some of their activities. Attitudes and opinions really mean a lot to people.

The development of realistic indicators, for each of the target populations, should recognize the phases through which the public will pass until a change of attitude occurs:

1. They will perceive that the message exists (it will have attracted their attention).
2. They will understand what is being transmitted (they will have understood the message).
3. They will agree that the message is true and that other people should also hear it.
4. They will recognize the benefits that they might receive if they adopt the message.
5. They will change their attitudes.
6. The new attitude will lead them to change their behavior.

So the indicators will be in terms of measuring the following in the target population:

- An increase in awareness (short term)
- A change of attitude (medium term)
- Promotion of actions. Self-management (long term)

The indicators should be prepared through an approach involving methods of follow-up, combining qualitative and quantitative elements of the target populations. This is due to the difficulty of establishing a single tool as the best one for representing the complexity of the MBRS socio-environmental reality. Furthermore, upon referring to the strategy as a change of human behavior and attitudes, it is more productive to use a varied collection of data, obtained from different sources and methods at different times during the evaluation process, so that the validity and reliability of the data are increased, since otherwise the resulting indicators will be incomplete and unreal.

The tools recommended below for preparing the indicators are general in nature and can be substituted by working groups which will implement the strategies in the MBRS regions, selecting those which are most appropriate to the socio-cultural conditions of each country. These tools are described in the following chart ¹:

¹ SEE: Frechtling, Joy, (et.al.)

Chart 8. Tools Suggested for Evaluating the Strategy

METHODS	
QUALITATIVE	QUANTITATIVE
OBSERVATION. (DIRECT, PHOTOGRAPHIC, VIDEO)	SURVEYS
INTERVIEWS	TESTS
WORKSHOPS	EXISTING DATA BASES
KEY INFORMERS	STUDIES OF DOCUMENTS NOT AIMED AT THE STRATEGY
EVALUATION OF BEHAVIOR	REPORTS OF MBRS PROJECTS

During implementation these tools should include complementary activities. For instance, through observation it will be possible to identify the status of health of children from a certain family in the community, complemented with information provided by the local doctor, in order to have a better idea of the origin of the problem. It is possible to go to the place where the community buys its supplies, as well as seeing the house where they live, the way they cook, etc. A numerical importance can be given to all these elements, in accordance with the monitor's experience.

12.1 Process for preparing the indicators

In the case of quantitative information, there is official information, which is relatively periodical, and that can be used for providing follow-up to the topics of interest of the strategy, as well as the other MBRS projects, which should reflect some changes in the socio-environmental awareness of the target population.

In the case of qualitative information, the following process should be followed:

1. Preparation of instruments for collecting information.
2. Preparation of a key for weighing each element of the instruments.
3. Gathering of information.
4. Obtaining and quantifying qualitative information.
5. Preparation of an index.

As a final monitoring point, both types of information should be concentrated in a matrix which permits the establishment of a numerical value for each aspect of the strategy and in this way determine how effective the campaign is.

12.2 Monitoring Topics

In the charts below, the indexes and indicators are described upon which follow-up actions should be based. These indicators can be adapted to the capacities of the institutions implementing the strategy, but they should conserve the sense of complex indicators and what is shown in the column ASPECT (INDICATOR). The stages the indicators correspond to appear in brackets, as described above.

Chart 9. Evaluation and Follow-up Indicators

COMMUNITIES (Human settlements on the coast and their area of influence)			
CATEGORY	ASPECT (INDICATOR)	VARIABLES	METHODOLOGY (PROPOSED)
Environmental responsibility	(1) Responsible tourism practices (service providers)	<ul style="list-style-type: none"> ▪ Number of tourism service providers who know the concept of Responsible Tourism (Knowledge-Awareness) ▪ Number of participants in related activities developed in the community (workshops). (Knowledge-Awareness) ▪ Number of service providers who demonstrate responsibility for the environment in their activities (Attitude) ▪ Number of service providers who participate and organize actions related to the topic (workshops, committees, etc) (Attitude) ▪ Number of tourists in a certain place at the same time by season (Attitude) ▪ Opinions of tourists on environmental aspects of tourism services in the community (Awareness-Attitude) 	<p>Workshops in the pilot communities on the issue.</p> <p>In situ observation, photography and video, based on a previously prepared guide.</p> <p>Interviews with key informers and surveys.</p> <p>Interviews with tourists.</p> <p>Reports presented by service providers to the authority related to maritime-tourism activities.</p>
	(2) Responsible tourism practices (facilities)	<ul style="list-style-type: none"> ▪ Number of establishments where people say they know the guidelines of respect for the environment (Knowledge-Awareness) ▪ Number of establishments where the guidelines of respect for the environment are observed, whether 	<p>In situ observation, photography and video, based on a previously prepared guide.</p> <p>Interviews with key informers and surveys.</p>

COMMUNITIES (Human settlements on the coast and their area of influence)			
CATEGORY	ASPECT (INDICATOR)	VARIABLES	METHODOLOGY (PROPOSED)
		<p>they be adaptations or the original design (Attitude)</p> <ul style="list-style-type: none"> ▪ Follow-up to evaluation actions by the authorities in relation to regulations (Attitude) 	<p>Interviews with tourists.</p> <p>Consulting data bases of offices related to environmental permits and control of the activity.</p>
	(3) Responsible fishing practices	<ul style="list-style-type: none"> ▪ Number of fishermen participating in the related actions, organized by the MBRS or partner entities (Awareness-Attitude) ▪ Number of complaints related to closed seasons and areas of restricted activity (Awareness-Attitude) ▪ Characteristics and maintenance of fishing techniques (Awareness-Attitude) ▪ Participation in and organization of actions related to the health of ecosystems on the coast and in fishing areas, by the fishermen (Awareness-Attitude) 	<p>Workshops in the pilot communities on the issue.</p> <p>In situ observation, photography and video, based on a previously prepared guide.</p> <p>Interviews with key informers and surveys.</p> <p>Reports presented by the fishermen to the authority related to fishing activities</p>
Well-being of the community	(1) Health	<ul style="list-style-type: none"> ▪ Changes in eating habits (basic food, hygiene) (Awareness-Attitude) ▪ Conditions of the place where food is prepared, etc., of local families (initial situation and changes resulting from the campaign) (Awareness-Attitude) ▪ Improvement in the status of health of under 12s and mothers (Awareness-Attitude) ▪ Consumption of disposable products, canned. (Awareness-Attitude) ▪ Water drinking habits (Awareness-Attitude) ▪ Availability and quality of the services and infrastructure provided by the government or by community management (Attitude) 	<p>In situ observation, photography and video, based on a previously prepared guide. ("Pilot" families)</p> <p>Interviews with key informers and surveys.</p> <p>Interviews with tourists.</p> <p>Consulting data bases of rural clinics.</p> <p>Beneficiaries of social welfare programs (Type: Opportunities, Mexico, others of Social Promotion)</p>
	(2) Waste management	<ul style="list-style-type: none"> ▪ Number of places for disposal of solid waste and sanitation services in homes and in the community (Awareness-Attitude) 	<p>In situ observation, photography and video, based on a previously prepared guide.</p>

COMMUNITIES (Human settlements on the coast and their area of influence)			
CATEGORY	ASPECT (INDICATOR)	VARIABLES	METHODOLOGY (PROPOSED)
		<ul style="list-style-type: none"> ▪ Volume, nature and type of solid waste generated in the community (Awareness-Attitude) 	Interviews with housewives and authorities.
Environmental attitude	(1) Internalization of the environmental problems	<ul style="list-style-type: none"> ▪ Number of persons who say they know the benefits of rational and responsible use of natural resources (Awareness) ▪ Number of persons who participate in conservation actions and maintenance of the natural marine-coastal spaces (Attitude) ▪ Number of families who have responsible attitudes in the management of waste and housing conditions (Awareness-Attitude) 	<p>In situ observation, photography and video, based on a previously prepared guide.</p> <p>Interviews with inhabitants and authorities.</p> <p>Data bases on beneficiaries of housing programs.</p>

GOVERNMENT			
CATEGORY	ASPECT (INDICATOR)	VARIABLES	METHODOLOGY (PROPOSED)
Regulations and legal provisions for the management of marine-coastal resources	(1) Dissemination of regulations	<ul style="list-style-type: none"> ▪ Number of places and announcements in the region informing about environmental aspects (Awareness-Attitude) ▪ Number of persons with knowledge of the regulations in government offices and in the community (Awareness-Attitude) ▪ Number of participants in environmental actions (workshops, cleaning, etc) in the region (Awareness-Attitude) ▪ Amounts invested for a specific period and number of actions organized by the authorities (local, regional, etc) related to the dissemination of regulations whether they are in their area of responsibility or not (Attitude) 	<p>In situ observation, photography and video, based on a previously prepared guide.</p> <p>Interviews with inhabitants and authorities.</p> <p>Official data bases of environmental institutions.</p>
	(2)	<ul style="list-style-type: none"> ▪ Amounts invested for a specific period and number of 	In situ observation, photography and

GOVERNMENT			
CATEGORY	ASPECT (INDICATOR)	VARIABLES	METHODOLOGY (PROPOSED)
	Follow-up to Regulations	<p>actions organized by the authorities (local, regional, etc) related to follow-up in the application of environmental regulations (Awareness-Attitude)</p> <ul style="list-style-type: none"> ▪ Presence of offices and authorities related to environmental issues in the coastal communities (Awareness-Attitude) 	<p>video, based on a previously prepared guide.</p> <p>Official data bases of environmental institutions.</p>
Formation of an environmental culture	(1) Education and promotion of environmental issues in the marine-coastal area	<ul style="list-style-type: none"> ▪ Amounts invested for a specific period and number of actions organized by the authorities (local, regional, etc) related to education and the promotion of environmental issues (Awareness-Attitude) ▪ Presence of offices and authorities related to environmental issues in the coastal communities (Awareness-Attitude) ▪ Environmental behavior of the authorities. Actions (Awareness-Attitude) 	<p>In situ observation, photography and video, based on a previously prepared guide.</p> <p>Official data bases of environmental institutions.</p>

TOURISTS			
CATEGORY	ASPECT (INDICATOR)	VARIABLES	METHODOLOGY (PROPOSED)
Environmental awareness	(1) Adoption of knowledge related to marine-coastal ecosystems	<ul style="list-style-type: none"> ▪ Number of tourists who say that they know the characteristics and importance of marine-coastal resources (Awareness) ▪ Number of tourists who prefer to visit natural destinations due to the quality of coastal resources (Attitude) ▪ Number of tourists who visit a destination more than once and who recommend it due to the quality of its coastal resources (Attitude) ▪ Number of tourists and media who express that they have been interested in the environmental problems of the MBRS (Awareness-Attitude) 	<p>In situ observation, photography and video, based on a previously prepared guide.</p> <p>Interviews, surveys (directly or through the internet)</p> <p>Interviews with key informers (travel agencies, tour operators, service providers, etc)</p>

TOURISTS			
CATEGORY	ASPECT (INDICATOR)	VARIABLES	METHODOLOGY (PROPOSED)
Environmental appraisal of tourism activities through the clients	(1) Quality of tourism resources and services	<ul style="list-style-type: none"> ▪ Number of tourists who state their requirements to service providers in relation to environmental issues (Awareness-Attitude) ▪ Number of complaints and reports presented by tourists in relation to environmental aspects of tourism services (Awareness-Attitude) ▪ Number of tourists participating in environmental activities in the destinations (Attitude) 	<p>In situ observation, photography and video, based on a previously prepared guide.</p> <p>Interviews, surveys (directly or through the internet)</p> <p>Interviews with key informers (travel agencies, tour operators, service providers, etc)</p>

THE MEDIA			
CATEGORY	ASPECT (INDICATOR)	VARIABLES	METHODOLOGY (PROPOSED)
Environmental attitude of the media.	(1) Green publications	<ul style="list-style-type: none"> ▪ Number of spaces in the mass media devoted to environmental issues (Awareness-Attitude) ▪ Quality of the spaces devoted to environmental issues (Awareness-Attitude) ▪ Number of media that have included spaces devoted to MBRS socio-environmental issues ▪ Number of interviews, requests for information, etc from the media to the institutions in relation to MBRS environmental issues. 	<p>In situ observation, photography and video, based on a previously prepared guide.</p> <p>Journalistic follow-up</p> <p>Files and data bases of the local and regional media</p>

INDUSTRY			
CATEGORY	ASPECT (INDICATOR)	VARIABLES	METHODOLOGY (PROPOSED)
Environmental responsibility of the industry	(1) Management of industrial waste	<ul style="list-style-type: none"> ▪ Number of industries that take action related to the treatment of their waste, because of regulations or because of their corporate image (Awareness-Attitude) ▪ Number of industries that have presented programs or projects related to the treatment of their waste (Awareness-Attitude) ▪ Number of complaints, fines, etc against industrial enterprises related to environmental issues 	<p>In situ observation, photography and video, based on a previously prepared guide.</p> <p>Official data bases of environmental institutions.</p>
	(2) Funding for environmental actions in the region	<ul style="list-style-type: none"> ▪ Corporate facilities offered by industry for funding actions related to the environment (Awareness-Attitude) ▪ Number of and amount spent on actions related to environmental issues in which the enterprise has participated, either as an organizer or as a guest (Awareness-Attitude) 	

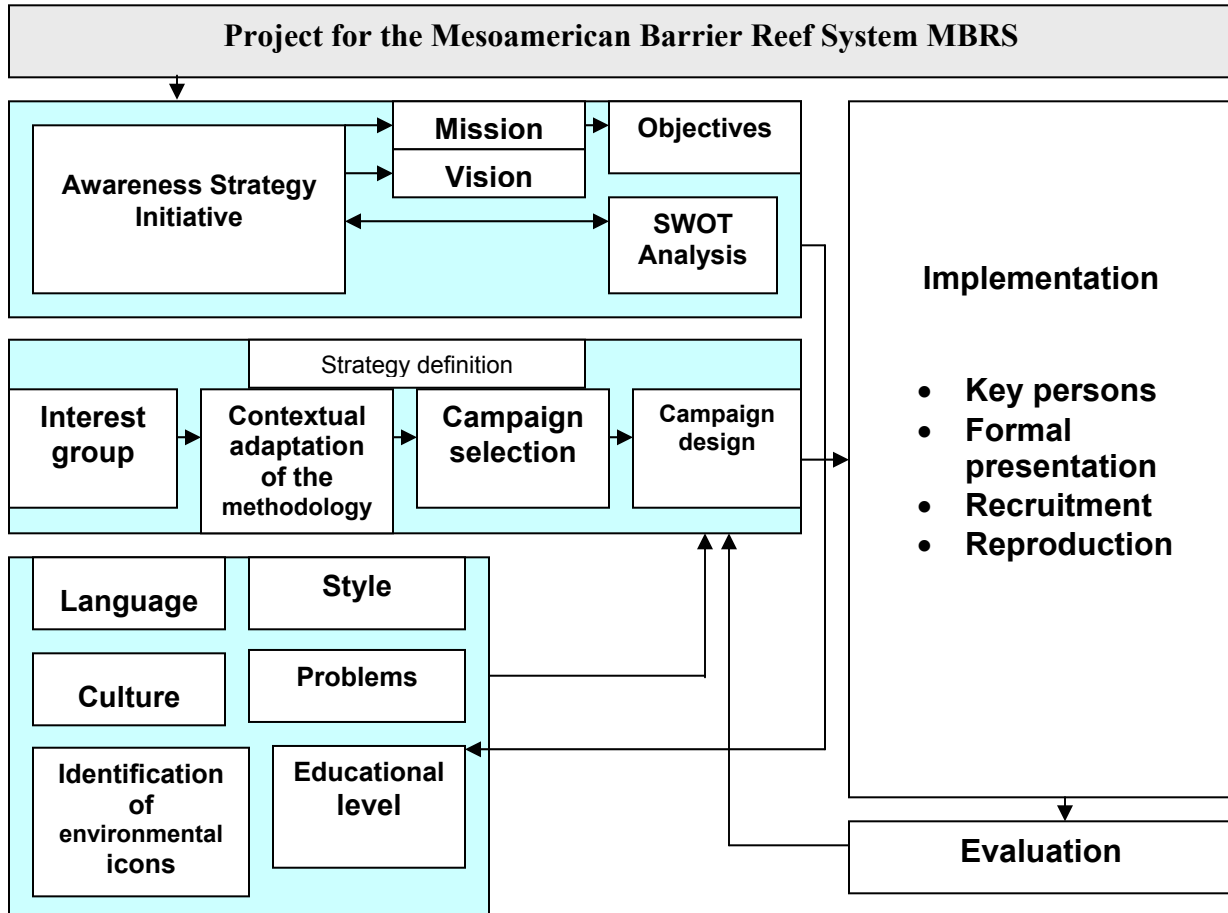
13. BIBLIOGRAPHY

- Andara, María Eugenia. COPPE/UFRJ. 1992. Os Sistemas Integrados: Sus Potencialidades como Estilo de Desenvolvimento Socioeconómico y Ecológico.
- Bimsa. 2002. Estrategia de Comunicación para el Corredor Biológico Mesoamericano. p.13-37
- Frausto, Oscar, Stefen Giese. 2002. "Indicadores ambientales de turismo sustentable para el Caribe y Centroamérica: Isla de Cozumel, México" In: Pereira, Alberto, Ian Boxil, Johannes Maerk (Editores) *Turismo, desarrollo y recursos naturales en el Caribe*. University of Quintana Roo, Department of Management Studies, University of West Indies. Editorial Plaza y Valdés, S.A. de C.V. p. 127 – 138.
- Frechtling, Joy, Laure Sharp, Westat (Editores). 1997. User-Friendly Handbook for Mixed Method Evaluations. Directorate for Education and Human Resources, Division of Research, Evaluation and Communication National Science Foundation (NSF). p.126 <http://www.ehr.nsf.gov/EHR/REC/pubs/NSF97-153/start.htm>
- La Gaceta, Official Journal of the Republic of Honduras. February, 1995. Resolution No. 109-93, General Regulations of the Environment Law,
- La Gaceta, Official Journal of the Republic of Honduras. November, 1991. Resolution No. 1098-01, General Regulations of Fishing,
- La Gaceta, Official Journal of the Republic of Honduras. 1994, Regulations of the National System of Environmental Impact Evaluation,
- La Gaceta, 1980. Decree - Law. No. 968, Law for the Declaration, Planning and Development of Tourist Areas,
- MBRS Project. 2001. Annual Work Plan, 2001-2002, p.23, 30, 34.
- ILO. 1989. Convention No. 169, On Indigenous and Tribal Peoples, International Labor Organization
- Olderman, Ray. (s/f), Social marketing: The bottom line is behavior change. <http://www.bcentral.com/articles/demographics/135.asp> Price Waterhouse Coopers (s/f), Developing Social Indicators for Use in GRI Sustainability Reporting. Global Reporting Initiative. <http://www.globalreporting.org/Events/September1999/BackgroundDocuments/SocialWeiss.pdf>
- SACHS, IGNACY.1992. Equitable Development on a Healthy Planet: Transition Strategies for the 21st Century, in: Hague Symposium on "Sustainable Development: Front Concept to Action".
- Savory, Allan. 1999. Holistic Management. A new framework for decision making. Island Press. Washington. p.616.
- Silva, Mauricio et. al. 2000. Análisis Social del Área de Influencia del Sistema Arrecifal Mesoamericano (SAM). p.22-31.
- TRIGOH.1999. Plan Estratégico de la Alianza Trinacional para la Protección del Golfo de Honduras.
- UNEP.1997. International Barrier Reef Year.
- Windevoxhel, et al. 1997. Situación del Manejo Integrado de Zonas Costeras en Centro América: Experiencias del Programa de Conservación de Humedales y de Zonas Costeras de UICN para la Región. PROARCA/COSTAS/USAID, p.79.

World Bank. 2001. Project Appraisal Document, for the Conservation and Sustainable Use of the Mesoamerican Barrier Reef Systems.

14. ANNEXES

ANNEX 1. SYNTHESIS SHEET (MATRIX)



ANEX 2.

Directory of international contacts

<i>Belize</i>	<i>Guatemala</i>	<i>Honduras</i>	<i>Mexico</i>	<i>Regional Organizations</i>
<p>TIDE BELPO Holchan Marine Reserve UB Fisheries Dep. Environment Dep. Belize City Council National Garifuna Council Belize Audubon Society PACT Secretariat of Education Green Reef. Friend of Nature</p>	<p>MARN FUNDAECO FUNDARY FLACSO Municipalities of Izabal Secretariat of Education CECON UNIPESCA</p>	<p>SERNA Dige Pesca ODECO UNAH FUNDEMUN INADES Enlace de Mujeres Negras (Black Women's Connection) REHDES UGA, Cortés UMA , Omoa Secretariat of Education ENP CURLA</p>	<p>SEMARNAT ECOSUR UQROO UNAM SEDUMA CINVESTAV Municipalities of Benito Juárez, OPB, Cozumel and Carrillo Puerto, Solidaridad, Isla Mujeres. Secretariat of Education Amigos de Sian Ka'an (Friends of Sian Ka'an) Amigos del Manatí (Friends of the Manatee) SEyCQROO Network of Environmental Organizations Hotel Organizations Secretariat of Tourism Xcaret Group</p>	<p>CBM PROARCA TRIGOH BEMMANCOR ONECA WWF TNC</p>