

Financing conservation through Payment for Environmental Services at the Monarca Butterfly Biosphere Reserve

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Fund:

FMCN

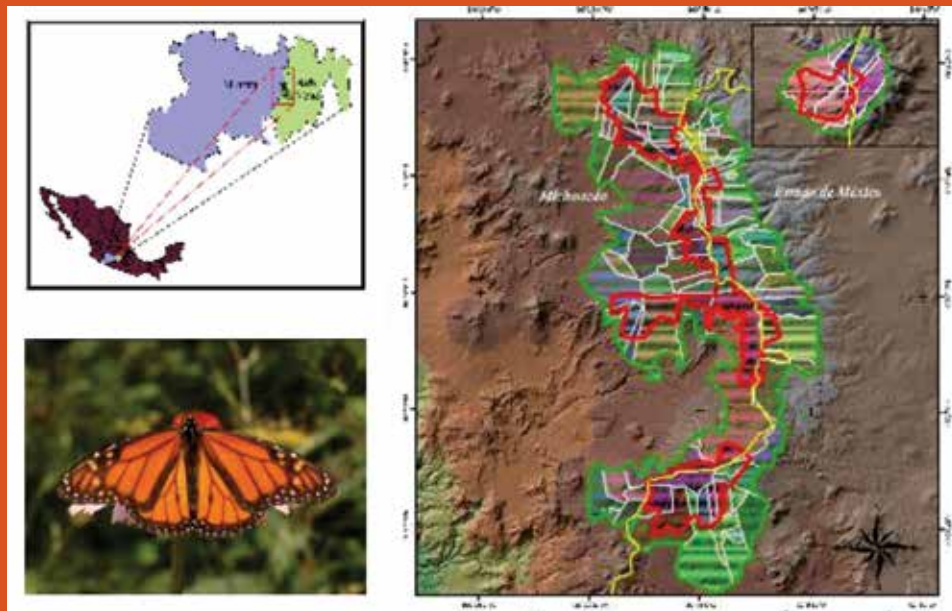
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Case Studies

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- **Environmental Service description**

The forest environmental service rendered at Monarca Butterfly Biosphere Reservation (RBMM) core area under the administration of the Federal Government Committee of Natural Protected Areas (CONANP)¹, targets the protection of hydrological basins and biodiversity conservation to contribute, in this specific case, to the maintenance of the migratory phenomenon of Monarca Butterfly.

¹ CONANP (<http://www.conanp.gob.mx/>)

- **Fundraising to create the project**

An Endowment Fund (FP) has been set up to manage USD 7 million raised by the World Wild life Fund (WWF) and the Mexican Fund for the Conservation of Nature A.C (FMCN) from a USD five million grant by Packard Foundation, USD one million from the Environment, Natural Resources and Fishing Secretariat (SEMARNAP) and USD one million from México and Michoacán State Governments (Chart 1). Interest from the Endowment Fund (FP) was used to create the Monarca Trust Fund (FM) that establishes economic incentives for 34 cooperative farming organizations, indigenous peoples communities and private property in Monarca Butterfly Biosphere Reservation (RBMM) core area.

Chart 1. Monarca Fund endowment make up

Donor	Grant \$USD	%
Packard Foundation	5,000,000.00	71.43
SEMARNAP	1,000,000.00	14.29
México State	750,000.00	10.71
Michoacán State	250,000.00	3.57
TOTAL	7,000,000.00	100

- **Motivation – What makes PES work? Legal Framework, private parties bargaining, etc.**

The Monarca Fund (FM) design process and start up of environmental services payment mechanism in Monarca Butterfly Biosphere Reservation (RBMM) core area has been complex and demanded stakeholders participation at different construction stages.

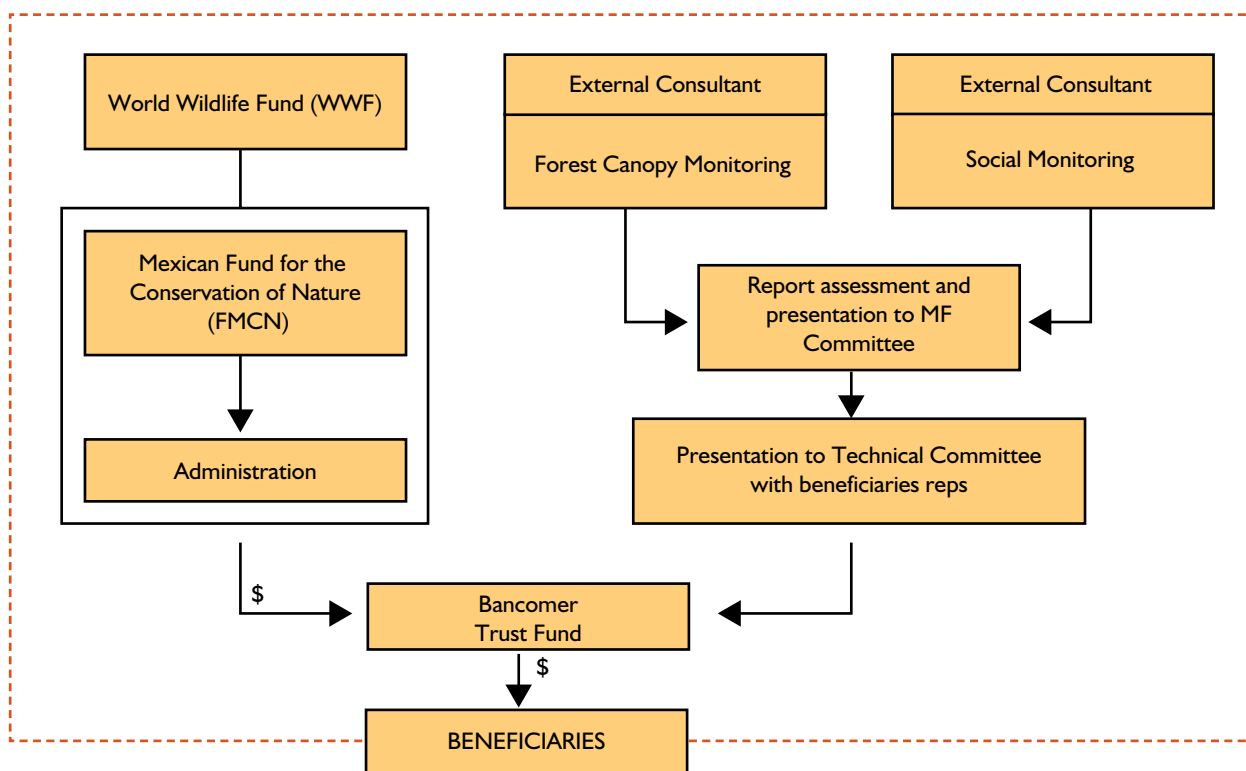
First Stage: Bargaining process with cooperative farming organizations, indigenous peoples communities and small owners, academic institutions, government and non government agencies to enlarge RBMM core area size.

Players involved in year 2000 decree negotiation

SEMARNAP Congressmen Committee RBMM Board State Delegates State and city Governments	WWF FMCN ALTERNARE A.C. Mocaf Network UNORCA. Bosque Modelo A.C. Naukelo Langini A.C. Cooperative farming organizations and Communities	UAM-Xochimilco. Florida University. UNAM Geography Institute	RBMM Cooperative farming organizations land and Indigenous people
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Second Stage: Monarca Fund Design and set up, decision making process for payment, forestry base line establishment, social monitoring, cooperative farming organizations, indigenous peoples communities and small forest owners in Monarca Butterfly Biosphere Reservation (RBMM) core area enter into Monarca Fund (FM) participation agreements.

“ **The Monarca Trust Fund establishes economic incentives for cooperative farming organizations, indigenous people communities and private properties** ”



Third Stage: Agreements to make payments to cooperative farming organizations, indigenous peoples communities and small owners in a direct manner at community assemblies.

Fourth Stage: Identify new grants for the Endowment Fund (FP) and partnerships to strengthen support by cooperative farming organizations, indigenous peoples communities and small owners.

- **Legal Framework**

In terms of a national legal framework, the first level framework is ruled by principles enshrined in the Political Constitution of the United States of Mexico, whereby land and water ownership and tenure are relevant (Art. 27). This concept is based on the Agricultural Act (LA), National Waters Act (LAN), Environmental Balance and Protection General Act (LGEEPA) and the Rights Federal Act (LFD). It is worth noting that considering the complex legal situation of the area, instruments of general enforcement at national level are not mentioned. Only instruments related to the project and project area are considered, leaving the general legal framework aside.

The applicable legal framework in FM derives partly from an agreement entered into during the Monarca Butterfly Biosphere Reservation (RBMM) core area enlargement established by the Natural Protected Area Decree in the year 2000. The above mentioned natural protected area is defined in Section II, Article 46, Sub item I, LGEEPA General Act. Another regulatory instrument considered is the Monarca Butterfly Biosphere Reservation Management Program where main action points for the conservation of core area natural resources are mentioned.

Other agreements and contracts were entered into by beneficiaries with the purpose of enforcing a permanent mechanism to safeguard the conservation of RBMM core area. The following agreements were entered into between the WWF, FMCN, the Federal Government Committee of Natural Protected Areas (CONANP), the RBMM Board and cooperative farming organizations, indigenous peoples communities and private property owners:

- **Coordination Agreement on October 24th, 2000.**
- **Supplementary Agreement to amend the Coordination Agreement annexes on July 31st, 2001.**
- **Irrevocable Trust Administration Contract that establishes the Monarca Butterfly Conservation Fund or Monarca Fund on July 22nd, 2002.**

As of the year 2008 the Monarca Fund (FM) was strengthened by the establishment of a collaboration agreement to promote hydrological environmental services market through Matching Funds (FC) between the National Forestry Committee (CONAFOR) and FMCN, increasing payment to cooperative farming organizations, indigenous peoples communities and private property owners for 10 years (2009 – 2018). This mechanism paved the way for many participation agreements among cooperative farming organizations, indigenous peoples communities and private property owners and CONAFOR, WWF and FMCN.



- **Where do resources to support PES come from?**

The main funding source to support Monarca Fund (FM) is interest paid by the Endowment Fund (FP). As a consequence of this arrangement, long term contracts with cooperative farming organizations, indigenous peoples communities and small owners that are responsible for looking after forests in RBMM core area were entered into. Partnership with other institutions, e.g. the National Forestry Committee has made Matching Funds a reality to increase amounts paid for environmental services performed by forest owners.

- **Who pays and who enjoys the benefit – Stakeholders**

The technical decision making instrument for payment is the annual monitoring of the forest canopy in Monarca Butterfly Biosphere Reservation (RBMM) core area. Monitoring is done with aerial pictures at a 1:10 000 scale taken on a yearly basis and are used for comparisons to identify change during the year. Apart from that, actual field verification visits are carried out with agricultural authorities, the RBMM Board, Monarca Fund coordinators, WWF and CONAFOR.

Forest monitoring results are used by the Monarca Fund Technical Committee (CTFM) to decide on payment approvals. CTFM members are representatives of the Mexican Fund for the conservation of Nature (FMCN), WWF, CONAFOR, CONANP, MF, México and Michoacán State Government, six representatives of cooperative farming organizations, indigenous peoples communities and private property owners. Payment is made directly in community assemblies that decide on the distribution schemes.

- **Value assessment and benefit distribution**

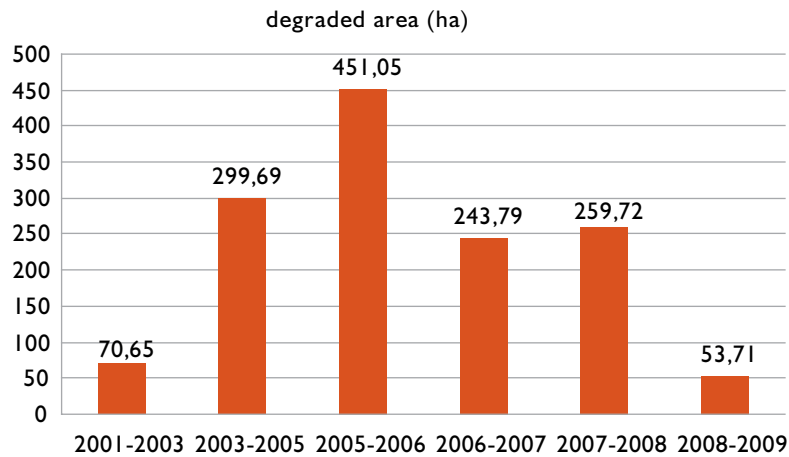
- Benefit distribution is different in each lot of land, according to total surface area and conservation of forest canopy. These are the benefits identified so far:
- Distribution: Payment is made to communities that divide the amount among the number of cooperative members or owners. In order to estimate individual payment values, the amount paid by check is divided by the number of cooperative members registered in each lot. It is important to say that some cooperatives have clear benefit distribution criteria which include money payments to those that participated in forest protection and conservation tasks or attendance to assembly meetings.

- **Strengthening of community surveillance:** This item refers to all forest protection, conservation and restoration activities covered partly or totally by MF money. It can involve the rental of equipment to dig ditches to prevent truck drivers from driving by or paying people for surveillance rounds in forests.
- **Collective benefit activities:** Road improvement, water supply, irrigating channels maintenance works, school improvement works, church restoration, purchase of land to reform a cemetery, construction or reform of the community house. The main characteristic of this type of investment is that the decision was made in favor of the common benefit of all land owners.
- **Miscellaneous:** This category includes community management, study or project payment.
- **Institutional Arrangement**
The institutional arrangement includes three main areas a) the formal establishment of the MF Board working full time for the fund that reports to the Natural Protected Areas Fund Technical Committee (CTFANP), which in turn reports to the Mexican Fund for the Conservation of Nature (FMCN) Board of Directors and the Natural Protected Areas National Council (CNANP), b) the strengthening and commitment of the Trust Technical Committee in the approval of support provided to owners in the core area, and c) Organic independence of the MF Coordination from WWF and field presence since it is located in the region.
- **Financial Mechanism – How payment works**
Payment procedure in the MF includes the following activities:
 - **Checks issued.** Once a year in June, Monarca Fund Technical Committee (CTFM) studies the report issued by the RBMM Board together with forest monitoring results to decide which areas fulfilled their forestry canopy conservation commitments and approves scheduled payment. The Trustee (BBVA Bancomer SA de CV) will issue the checks according to the decision made by Monarca Fund Technical Committee (CTFM).
 - **Assembly Schedule.** Once the checks are ready in the bank, the MF coordinator in the region informs community authorities and sets the date for the assembly. Each cooperative organization can decide on what type of meeting they will hold: a) a regular assembly on a – monthly, bimonthly or quarterly basis – where different issues are dealt with and includes payment of MF in the meeting agenda; b) a special assembly scheduled for an urgent matter where payment can also be made; or c) a meeting convened specifically for payment purposes.
 - **Check hand out and information session.** Handing out the economic compensation is a chance to explain the Fund's characteristics and operational aspects directly to owners. Experience derived from participation in these meeting is used to produce an information report on MF related issues. Topics mentioned in each meeting vary according to the assembly's characteristics (participants, agenda, time devoted to MF or relative importance within the agenda, comments and doubts voiced by participants, among many other issues).
- **Main Challenges**
Consolidate a payment for environmental services model, community participation in conservation and restoration tasks in the natural protected area.
Increase forest conservation and wellbeing contribution mechanisms in cooperative farming organizations, indigenous peoples communities and private property.
Incorporate water monitoring activities to establish a relationship between payment for environmental services and the resource quality, quantity and distribution.

Establish community forest management models that leverage environmental goods and services. Include climate change aspects to determine the possible evolution of forest masses, environmental services and water availability. Identify threats and adaptation options in the region.

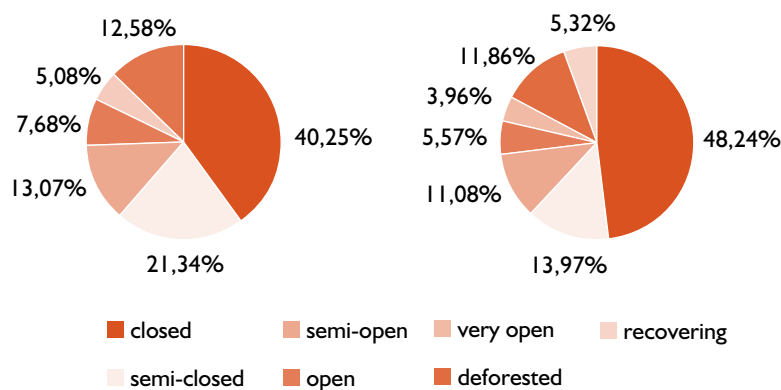
Consolidated illegal deforestation decrease trends in the region (Figure 1).

Figure 9. Forest degradation in RBMM core area as of the establishment of the MF.



Recent assessment of the forest canopy in Monarca Butterfly Biosphere Reservation (RBMM) core area during 2003 – 2009 estimated a 722 hectare recovery (5.32%). Closed canopy forest area (Figure 2) has also increased.

Figure 10. Forest canopy analysis in RBMM core area.



The ultimate objective is to deliver a benefit for communities with a support amount equal to the cost of opportunity² estimated for RBMM through institutional synergies.

- **Key case management facts**

In order to analyze key factors that enabled the development of MF we will describe Ostrom's eight institutional principles for sustainable common pool resource management (1998)

² The Cost of opportunity corresponds to income not perceived by rural owners when leaving their forest productive activities to allocate areas for conservation.

Table 17: Principles

Clearly defined boundaries	<ul style="list-style-type: none"> Physical boundaries of RBMM core area are clear and are defined by the 2000 Decree. Files for RBMM land tenure available. By presidential resolution common land dwellers are entitled to tenure and most are registered in the Common land rights Certification Program (PROCEDE).
Rules adaptation	<ul style="list-style-type: none"> Agreements establish obligations entered into by stakeholders in line with RBMM conservation objectives.
Choice arrangements	<ul style="list-style-type: none"> Resources handed out in community assemblies. Technical instrument to assess changes in forest canopies (Forest Monitoring) ca l (Monitore Fund Technical Committee for the conservation of Monarca butterfly with participation of owners la Mariposa en donde se da la participación de los propietarios. Monarca Fund Committee Independent MF assessment and redesign Se cuenta con una evaluación independiente del FM y su rediseño.
Monitoring	<ul style="list-style-type: none"> Monarca Fund Technical Committee (CTFM) is responsible for agreements enforcement with the support of the Fund coordinator, RBMM Board, CONAFOR and WWF.
Sanctions	<ul style="list-style-type: none"> Non Payment in areas that show changes in forest canopy.
Conflict resolution	<ul style="list-style-type: none"> CTFM Agreements are reached and rules are very clear.
Self determination	<ul style="list-style-type: none"> CTFM decision making process is totally independent as far as payment is concerned and agreements that come up during meetings.
Nested enterprises	<ul style="list-style-type: none"> Mechanism information is strengthened and resources are handed out in community assemblies. There is a Monarca Fund Committee that acts as an Executive Committee requested by donors.

- Innovations and problem solving**

One of the new possibilities for compensation payment made to cooperative farming organizations, indigenous peoples communities and private property arose on December 19th, 2008 when Monarca Fund and CONAFOR entered into a 10 year cooperation agreement to implement a support strategy for matching funds for cooperative farming organizations, indigenous peoples communities and private property in RBMM core area, introducing a more fair compensatory payment opportunity for dwellers. Investment made in this second stage is around U\$S 4,790,081.

As of 2009 and with the new Matching Funds mechanism, support to owners participating in Monarca Fund is as follows:

- Monarca Fund will pay \$12.00 dollars per hectare to owners that have carried out conservation activities as established in coordination agreements, supplementary agreements and the Monarca Fund Trust Contract.

In this new MF stage, owners who earned USD 12.00 per hectare will now collect USD 26.40 per hectare during the next 10 years in areas where forest conservation is done according to the Matching Fund Program Operational Rules.

Besides support granted by the Monarca Fund, owners can collect an additional amount of USD 26.40 per hectare from the National Forestry Committee (CONAFOR), through a Matching Funds mechanism in areas where forest conservation is done according to operational rules.

This new mechanism will pay cooperative farming organizations, indigenous peoples communities and private property in RBMM core area up to USD 52.80 per hectare with more than 50% canopy coverage during 2009-2018. The total surface area in RBMM core area is 13,551 hectares, out of which the estimated area with a surface greater than 50% canopy coverage is 9,928.34 hectares; that is 73% of the core area is part of the CONAFOR-FM Matching Funds Mechanism.

- **Opportunities identified**

Communities and cooperative farming organizations in Monarca Butterfly Biosphere Reservation (RBMM) own little more than 24 thousand hectares of forests in the buffer zone that together with the 11 thousand hectares in the core area add up an interesting asset to trigger development. Forests play an essential role in the generation of environmental services rendered by RBMM, and for this reason, conservation in core areas is essential. Nevertheless, maintenance of ecosystemic services calls for sustainable land use in the natural protected area environment and immediate influence area. Fulfilling this premise implies a comprehensive approach based on capacity building in cooperative farming organizations and communities, institutional synergy and intergovernmental cooperation.



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