

The Flight of the Butterflies: an IMAX 3D experience to raise awareness and financial resources

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Case Studies

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1. Introduction

The urgent need to find innovative alternatives that allow obtaining the funds needed to fulfill the mission of protecting the natural heritage of the planet has become obvious given the limited financial resources available for conservation. Mexico's experience of protecting an emblematic species, the protagonist of a migratory miracle: the monarch butterfly, will be presented in this case study. In Mexican soil, the efforts undertaken to protect this species have been shared by the Government and social and private organizations. However, the actions taken in Mexico are not enough to achieve the objective of protecting the species, since conservation concern is also the responsibility of the United States and Canada.

For this reason, a public-private initiative will be analyzed, the objectives of which are to educate the world about the existence of the monarch butterfly and the amazing migratory phenomenon it creates, to educate about the dangers posed to this species and raise funds to finance conservation actions. Specifically, we are talking about the production of an IMAX 3D film, whose main subject will be the monarch butterfly and its migration throughout North America. The film is titled Flight of the Butterflies and its website www.flightofthebutterflies.com provides detailed information about its exhibition in different countries.

This project is an example of an initiative that integrated different sectors and actors in support of conservation and that, in addition to the efforts of the film production company, included the participation of the Mexican Government at both state and federal levels, as well as the participation of private companies and the civil society organizations (CSOs), including the Mexican Fund for the Conservation of Nature A.C. (FMCN) and Mexico's environmental fund.

In the first section, the role of FMCN in the conservation activities in Mexico will be analyzed and its role in the protection of the Monarch Butterfly Biosphere Reserve (RBMM) will be specifically documented. Secondly, the initiative of the project “The Flight of the Butterflies” will be examined as well as its relationship with various activities aimed at the conservation of the monarch butterfly, its habitat and migratory route.

2. Mexican Fund For the Conservation of Nature, A.C.

The idea of establishing FMCN, a private non-profit organization, as the first environmental fund in Mexico, emerged in 1992 during the United Nations Conference on Environment and Development in Rio de Janeiro, Brazil. In the framework of this event, representatives of national and international conservation organizations as well as the then President of Mexico, Carlos Salinas de Gortari, identified the need to establish an autonomous and permanent organization in Mexico, with the ability of significantly contributing to stable and long-term conservation funding and that could also receive resources from various national and international sources to support biodiversity conservation projects. The commitments of the Governments of Mexico and the United States were derived for this meeting with the purpose of establishing a capital fund for such initiative to materialize.

The design of FMCN was based on a consultation process, in which over 400 representatives of 250 organizations and national and international institutions participated. In January 1994, FMCN was legally incorporated as a nonprofit civil association. Two years later it kicked off its first conservation program through a call in which 76 projects were selected in the following categories: i) conservation of ecosystems and species, ii) sustainable use, and iii) strengthening of environmental capacities and education. The institutional profile of FMCN is shown in Annex I.

2.1. FMCN and Protected Natural Areas (PNAs)

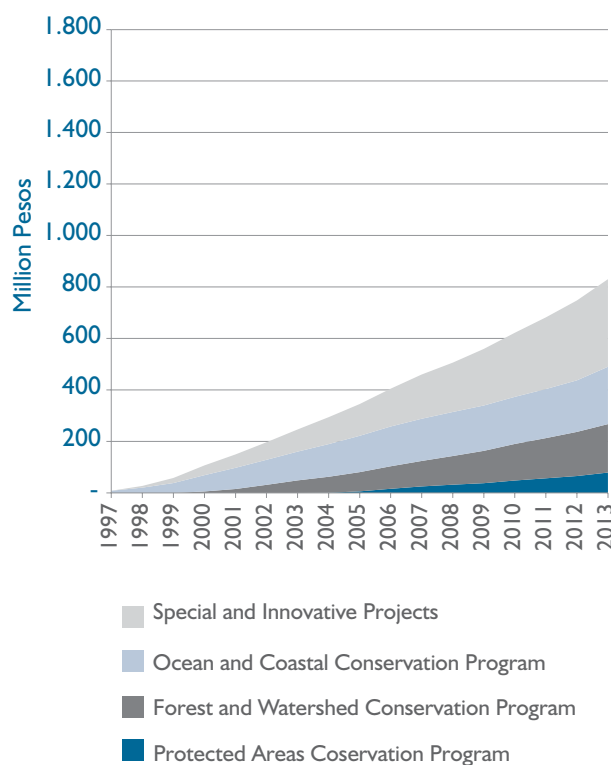
Since its inception and until 2013, FMCN has financed 1,241 conservation projects in 28 Mexican States, invested more than 65 million dollars in the field, provided technical and financial support to about 275 Mexican organizations, received donations from over 80 national and international sources, and technically and financially strengthened 24 Federal PNAs in close collaboration with the Mexican Government.

To accomplish this task, FMCN has maintained a close and constant relationship with governmental authorities, to such an extent that it has become one of the main allies of the Government of Mexico for the

conservation of the National System of Protected Natural Areas (Sinap), through the administration and raising of financial resources, and the management of capital funds. All in a framework of programmatic complementarity and administrative transparency.

FMCN has an office in conjunction with the National Commission of Protected Natural Areas (Conanp),¹ which facilitates working with the Mexican Government and keeps the projects in which both institutions work together running. The following diagram (Figure I) details the amount of FMCN’s historical contributions for conservation in Mexico.

Figure I. FMCN’s historical support to the conservation



The joint work carried out between FMCN and the Conanp has been based on the division of responsibilities between the two institutions for the management of PNAs. Thereby, FMCN has been in charge of the financial management, the application of interest, and the raising of additional and supplementary resources to the fiscal budget; while the Conanp has been in charge of field monitoring, management and conservation activities².

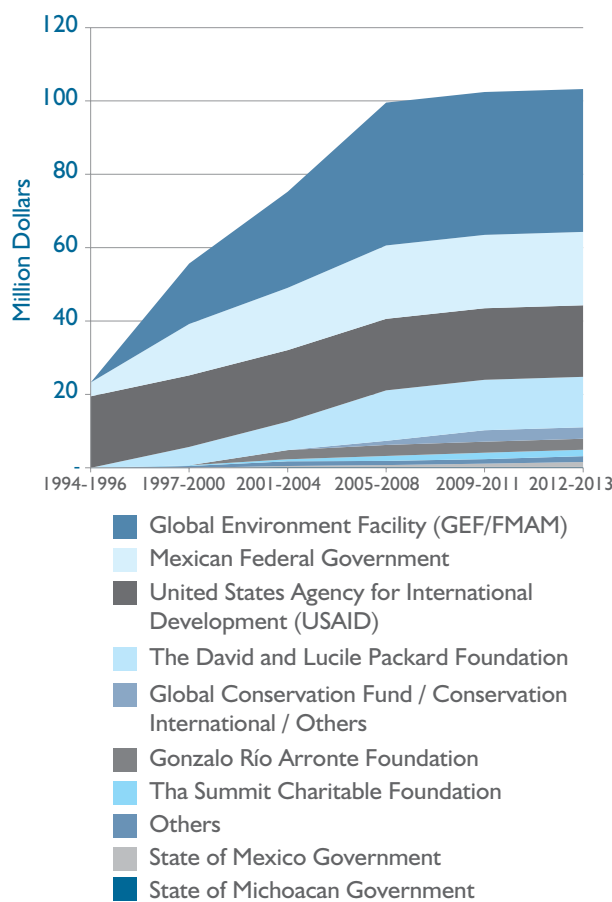
¹ The National Commission of Protected Natural Areas (Conanp) is a decentralized body of the Secretariat of the Environment and Natural Resources (Semarnat) of the Government of Mexico. It was created in 2000 and is in charge of the administration of the National System of Protected Natural Areas (Sinap), which currently has 176 natural federal areas representing more than 25,394,779 ha, approximately 10.6% of its surface and 1.6% of its marine area. Since May 2001, the responsibilities of the Conanp were extended to integrate Sustainable Regional Development Programs (PRODERS), with the aim of reducing the poverty and marginalization of rural and indigenous communities present in PNAs and in PRODERS regions.

² Ibid.

It is worth noting that in 1997, the PNAs that benefited from Protected Natural Areas Fund (FANP) of FMCN were only ten, for which 16.48 million dollars from capital resources were available, while in 2013 the number of PNAs increased to 24 and capital resources to 76 million dollars. This means that for 1997, the program's investment was approximately 1.64 million dollars a year and for 2013, this amount increased by 48%, i.e. to 3.16 billion dollars annually on average. These resources are additional and complementary to the federal budget that in 2014 was close to 90 million dollars for the entire system of 176 PNAs.

FMCN has different funding sources and mechanisms for its projects, which include the Mexican Government, the U.S. Government through the United States Agency for International Development (USAID), the Global Environment Facility (GEF), the David and Lucile Packard Foundation and Fundacion Gonzalo Rio Arronte, I.A.P., just to mention the most important. The proportion of these and other sources is detailed in Figure 2.

Figure 2. FMCN's capitalization



2.2 Work of FMCN in Monarch Butterfly Biosphere Reserve (RBMM) and the protection of this species

The RBMM is one of the 24 PNAs that benefited from the Protected Natural Areas Conservation Program that was financially coordinated by FMCN. The RBMM holds great national and international relevance

since one of its main conservation goals is the population and migration of the monarch butterfly, one of the iconic species of Mexico and North America.

The RBMM also receives resources from the Forests and Watersheds Conservation Program of FMCN. In 2009, FMCN supported the development of the forest baseline for the core area of the RBMM. This technical tool allowed establishing the surface to be supported with the funds in collaboration with the National Forestry Commission (Conafor). Similarly, FMCN has directly supported the monitoring of the Monarch Butterfly Fund and in the past has supported and financed the monitoring of hibernating colonies in the RBMM.

To measure the importance of the RBMM and how FMCN is connected with its conservation, an overview of this PNA, its actors and the financing mechanisms supporting it is shown below.

3. The Monarch Butterfly Biosphere Reserve

3.1 Characterization

The RBMM was re-decreed in 2000 to adjust its scope to the conservation needs of the species. It is located in the Trans-Mexican Volcanic Belt, to the east of the State of Michoacan and to the west of the State of Mexico. It covers the municipalities Temascalcingo, San Jose del Rincon, Donato Guerra and Villa de Allende in the State of Mexico and Contepec, Senguio, Angangueo, Ocampo, Zitacuaro and Aporo in the State of Michoacan (Figure 3). It has 56,259 hectares divided into three core areas (13,551 has) and two buffer zones (42,707 has). The RBMM is refuge to millions of monarch butterflies, especially between December and late February³.

The landscapes of the RBMM are characterized by valleys and mountains with altitudes ranging from 2,040 to 3,640 meters above the sea level. It is covered by temperate high forests, dominated by conifers such as fir, pine, oak and cedar species, which are important for the maintenance of natural processes such as water recharge, carbon capture and the conservation of a great biodiversity of vascular plants (493), fungi (50) and wild-life species (198 vertebrate species)⁴.

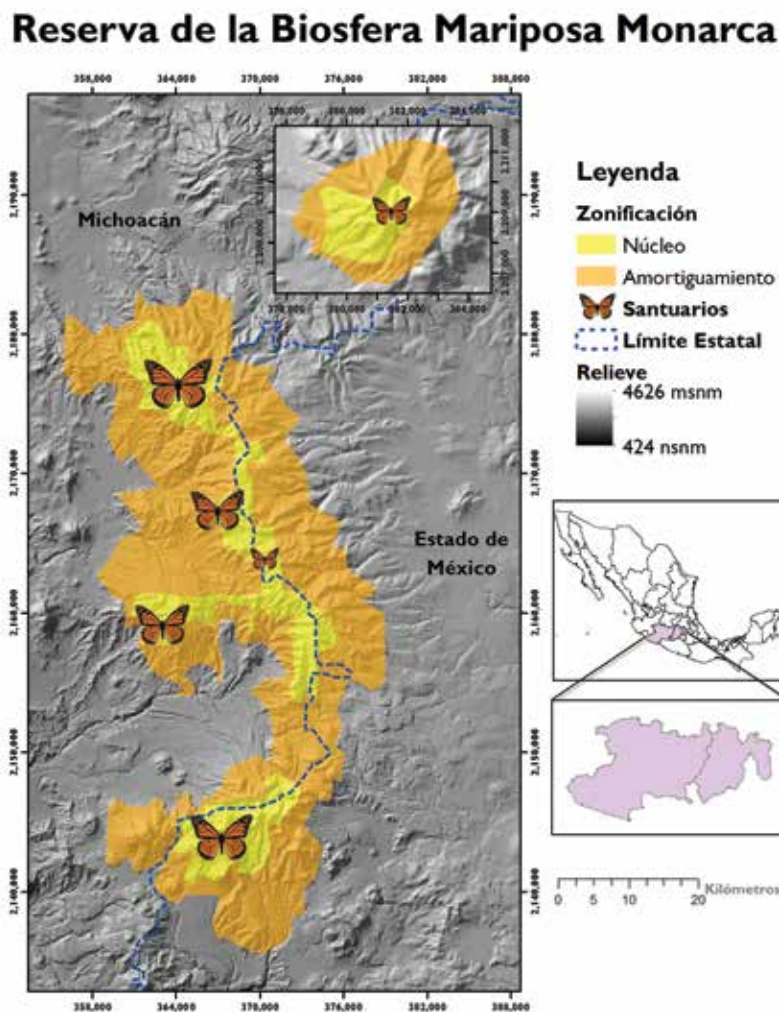
The area was recognized by the National Commission for Knowledge and Use of Biodiversity (Conabio) as a priority Terrestrial Region and Hydrological Region. The site was defined as an Area of Importance for the Conservation of Birds (AICA), it is located in a critically

³ Sigala P. "El entorno socio ambiental de la mariposa monarca." Universidad Autónoma de Chapingo.

⁴ "El Fondo Monarca: Un instrumento innovador de pago por servicios ambientales en apoyo a la conservación de bosques y a la retribución a comunidades forestales." Semarnat, Conanp, FMCN, WWF and States of Mexico and Michoacan. 2013. Available at: http://www.conanp.gob.mx/que_hacemos/pdf/programas_manejo/monarca.pdf.

endangered ecological region. In 2008, it was declared Natural Heritage of Humanity by the United Nations Organization for Education, Science and Culture (UNESCO). In addition, it is part of two of the largest and most important basins of the country: the Lerma River basin and the Balsas River basin, contributing with 30% of the water supply for Mexico City. Therefore, it also represents a priority region for the conservation and provision of environmental services⁵.

Figure 3. Limits of the RBMM



The region where the RBMM is located poses a challenge to conservation due to its unique physical, geomorphological, climatic, hydrological and biogeographical features, but especially because it is the end of the migration cycle of millions of monarch butterflies that journey from 3,000 km to 4,500 km south during October and November, from the northern area of the United States and Canada, to overwinter in Mexico. The flying speed of the monarch butterflies ranges between 15 and 45 km/h, depending on humidity and wind conditions, traveling approximately 120 km per day. During February, these butterflies mate and start their intergenerational migration back north by depositing their eggs in three different species of milkweeds⁶ along the route⁷.

In regards to their migration, the most important issues for the scientific study of this species are: the selection and fidelity to hibernation and breeding sites; the distribution of the species and subspecies; the behavior, genetics and ecology of populations, and the interaction of populations of this species with the management of natural resources. Other issues that have received less scientific study are the matching of the annual migration cycle and the astronomical sequence of equinoctial periods and solstices; the influence of the general circulation of the atmosphere and the direction of the prevailing winds in the displacement of monarch butterflies; as well as the effects of global climate and atmospheric changes in the reproductive dynamics of populations of the species⁸.

⁵ Conanp. Monarch Butterfly Biosphere Reserve Management Program. 2001. Available at: http://www.conanp.gob.mx/que_hacemos/pdf/programas_manejo/monarca.pdf

⁶ The Milkweed is a genus of dicotyledonous, perennial, herbaceous plants with about 140 known species. It belongs to the family Apocynaceae and many of their species distributed in the Nearctic.

⁷ Conanp. Monarch Butterfly Biosphere Reserve Management Program. 2001. Available at: http://www.conanp.gob.mx/que_hacemos/pdf/programas_manejo/monarca.pdf

⁸ Conanp. Monarch Butterfly Biosphere Reserve Management Program. 2001. Available at: http://www.conanp.gob.mx/que_hacemos/pdf/programas_manejo/monarca.pdf.

“The region where the RBMM is located poses a challenge to conservation due to its unique physical, geomorphological, climatic, hydrological and biogeographical features, but especially because it is the end of the migration cycle of millions of monarch butterflies”

3.2 Social context of the RBMM

The occupation of Mazahua and Otomi indigenous groups in the region now covered by the RBMM holds historical relevance. During the Spanish colony, this area was completely conquered and became a timber and mineral producing area, due to the existence of rich deposits of both resources. After the independence of the country, logging became the main economic activity and its extractive nature put the forest and natural resources of the region at risk. Subsequently, at the end of the Mexican Revolution and during the presidential period of General Lazaro Cardenas, the Agrarian Reform was promoted in which large estates were expropriated and the majority of the common lands⁹ and indigenous communities that currently make up the agrarian centers¹⁰ of the area were established.

Today, the ownership of the land in the RBMM is primarily social. The 59 common lands and 13 indigenous communities cover more than 24,000 hectares of forests in the buffer areas (42.7%) and 13 thousand hectares more in the core area (23.1%). In 2013, the population living in the area of the RBMM and surrounding areas reached 500 thousand inhabitants. This population is characterized by high rates of poverty, illiteracy, marginalization and a strong dependence on the forest and agricultural production,¹¹ which has put a high pressure on the natural resources of the RBMM.

While the Government of Mexico has issued three presidential decrees (1980, 1986 and 2000)¹² to protect the forests that are home to the monarch butterfly's hibernation sites, the RBMM has been exposed to different pressures largely as a result of the level of marginalization of the population living in the same area. As mentioned above, the region has a record of mining activity, unplanned extension of agricultural and grazing areas at the expense of forest areas, clandestine or illegal wood harvesting, overexploitation of natural resources and unplanned national and international tourism of more than 250,000 national and foreign visitors every year. These activities have led to the degradation and loss of over 10,500 hectares of forest in the Reserve. In addition to these social problems, there are also natural threats that alter the habitat of the RBMM, such as pests, fires, floods and droughts, exacerbated by the effects of the climate change. All these social and natural phenomena have made these environmental issues to be addressed on an interagency basis, which has given rise to the creation of synergies between the different actors, such as various governmental bodies, civil associations, academic institutions and common lands and communities. The objective of these alliances is to work together to design and implement community forestry development and management programs that address the environmental problems comprehensively, thus allowing to maximize the preservation of the environmental services of the forest at local, regional and national level¹³.

In 2000 and as an amendment to the previous decree of 1986, a third decree was issued for the RBMM¹⁴, with expanded the area core from 4,490 hectares to 13,551 hectares (23.1% of the surface), to include all

⁹ Common Land: portion of lands, forests or waters that the Government handed over to a farmer population for its exploitation (Agrarian Law, 1992). The emergence of common lands dates from the end of the Mexican Revolution and constitutes the return of territories to farmers, which establish the governance and zoning principles of the area granted. The latter is characterized because it is divided into human settlements, common use lands and grassland areas over which each common land owner (individual owner) holds certain rights of alienation (Zuniga and Castillo, 2010).

¹⁰ Ibid.

¹¹ The populations of the place generally use firewood for cooking, wood for marketing or extract non-timber products such as edible mushrooms to survive.

¹² Decree 1980: National Journal of the Federation of April 9, 1980.

Decree 1986: National Journal of the Federation of October 9, 1986.

Decree 2000: National Journal of the Federation of November 10, 2000.

¹³ "El Fondo Monarca: Un instrumento innovador de pago por servicios ambientales en apoyo a la conservación de bosques y a la retribución a comunidades forestales." Semarnat, Conanp, FMCN, WWF and States of Mexico and Michoacan. 2013. Available at: http://www.conanp.gob.mx/que_hacemos/pdf/programas_manejo/monarca.pdf.

¹⁴ <http://www2.inecc.gob.mx/publicaciones/gacetas/282/monarca.html>

hibernating colonies. This limited the use of forest resources for the community¹⁵. In this way, the measures undertaken with this third decree caused conflicts among the communities that were economically dependent on logging in the area¹⁶.

3.3 The Monarch Butterfly Fund

The conflicts that emerged from the expansion of the core area of the RBMM with the decree of 2000, resulted in the initiative of creating a financial scheme to compensate for the cancellation of logging permits existing in 2000 and support conservation activities of forest land owners and thereby achieve the protection of forests in the core area. The initiative consisted of the establishment of a fund for the conservation of the monarch butterfly, which was called the Monarch Butterfly Fund (MBF).

A relevant aspect related to the MBF is that it was designed according to the needs and requirements of the owners affected by the decree of 2000 and, at the same time, with the aim of promoting the conservation of the area, facilitating the unification of efforts from various sectors with the interests in the RBMM, such as the government, academia, civil society and land owners.¹⁷

A capital fund of 6.5 million dollars was created in the year 2000 in order to ensure the conservation of the core area of the RBMM. This is how the MBF was born, as an initiative of FMCN and the World Wildlife Fund (WWF), with financial support from the Packard Foundation, the Semarnat, at that time known as the Secretariat of the Environment, Natural Resources and Fisheries (Semarnap) and the Governments of the States of Mexico and Michoacan, as shown in Table 1.¹⁸

By 2013, the capital fund reached a number close to 7.5 million dollars from the recent contributions of the Government of the State of Mexico. This capital is managed through a trust administered by FMCN and supported by a multisectoral technical committee, whereby two types of economic incentives are applied:

1. Support to common lands, indigenous communities and private properties by modifying their forestry permits in the core area, and the payment of 18 dollars per cubic meter of wood not to be harvested.
2. Support to common lands, indigenous communities and private properties that had no harvesting permits, which will receive 12 dollars per hectare preserved. These payments are made in exchange of the commitment to preserve the core area and collaborate with the RBMM to ensure its protection.

The interest generated from the capital fund of the MBF were used to create the Monarch Butterfly Conservation Trust Fund, which has established a permanent compensation program for making direct payments to common lands that did have forestry permits and economic incentives in the form of payments for environmental services (PES) to 34 common lands, indigenous communities and private properties in the core area of the RBMM. The agreement was signed in October 2000, a supplementary agreement has signed in 2001 and the final trust agreement was executed in 2002.¹⁹

Table 1. Contributions to the Monarch Butterfly Fund

Donor	Contribution in Dollars	%
Packard Foundation	5,000,000.00	65.83%
Semarnat	1,000,000.00	13.17%
State of Mexico	1,345,270.46	17.71%
State of Michoacan	250,017.29	3.29%
Total	7,595,287.75	100%

¹⁵ Ibid.

¹⁶ Sigala Pascual. "El entorno socio-ambiental de la mariposa monarca." Universidad de Chapingo.

¹⁷ "El Fondo Monarca: Un instrumento innovador de pago por servicios ambientales en apoyo a la conservación de bosques y a la retribución a comunidades forestales." Semarnat, Conanp, FMCN, WWF and States of Mexico and Michoacan. 2013. Available at: http://www.conanp.gob.mx/que_hacemos/pdf/programas_manejo/monarca.pdf.

¹⁸ Presentation: Capital funds and PNAs in Mexico: Experience of 20 years by Renee Gonzalez, November 2013.

¹⁹ "El Fondo Monarca: Un instrumento innovador de pago por servicios ambientales en apoyo a la conservación de bosques y a la retribución a comunidades forestales." Semarnat, Conanp, FMCN, WWF and States of Mexico and Michoacan. 2013. Available at: http://www.conanp.gob.mx/que_hacemos/pdf/programas_manejo/monarca.pdf.

In 2000, the core area had 40 properties, which were distributed among 23 common lands, nine indigenous communities six small properties, one state-owned and another federally owned. The two federally and state-owned properties (one each) are not applicable to the MBF.²⁰

The PES scheme contemplated by the MBF was implemented in two stages²¹. In the first stage between 2000 and 2009, the interest of the MBF went to support the two types of economic incentives mentioned above. Most of the amount delivered corresponded to the funds available for equitable distribution; i.e., the resources were received by the president of the assembly's common land commission, who divided the total amount in the number of common land owners. In addition, the payments were allowed to vary according to the contributions to conservation tasks or as determined by their assemblies. Other amounts were intended to support the strengthening of community policing, carry out works for common benefit (such as repairs of roads, water supply, schools, churches, etc.) and pay for environmental impact studies.

In the second stage, planned from 2009 to 2026, Conafor joined this conservation effort through the creation of local PES mechanisms through concurrent funding, which means that the MBF will make an estimated contribution of five million dollars and the Conafor will contribute with four millions dollars, totaling more than nine million dollars, which will be directly intended to 38 owners of the core area for a period of 18 years (Table 2).

Table 2. Payments and projections of Conafor and Monarch Butterfly Fund

Period	Amounts paid (dollars)				Payment
	Payments by Conafor		Payments by MBF		
	Concurrent funds	Technical assistance	Concurrent funds	Conservation services	
2009-2011	385,444.09	-	805,096.36	96,925.82	1,190,540.45
2012-2018	1,828,479.48	189,131.89	1,878,558.16	2,473,648.39	4,091,773.63
2019-2026	1,793,333.26	223,961.13	1,983,317.06	2,827,026.74	4,224,158.97
Subtotal	4,007,256.83	413,093.03	4,666,971.57	5,300,675.13	-
Total		4,420,349.86		5,086,123.19	9,506,473.05

For Eligio Garcia Serrano, Coordinator of the MBF, the recovery of 700 hectares is one of the biggest achievements of the program. This goal was not easy to attain largely because the community-based management of the RBMM implies challenges arising from its governance system. Around 9,000 common land owners and community members and small owners were involved in this program, who as a rule replaced their authorities every three years, requiring the new authorities to receive an induction on the standards of the MBF. Based on the foregoing, Garcia Serrano concluded that organized common lands can generate higher profits, which in turn benefits the RBMM and its inhabitants.

However, a problem mentioned by the Coordinator of the MBF is the perception of many common land owners that the funds received do not really represent a compensation, which could be considered an error of assessment by the individuals benefited, since they did not fully assess their conservation revenues; i.e. their calculations did not account for the payments made by the Conafor and the National Forestry Program (Pronafor).²²

It is then concluded that it is necessary to strengthen strategic alliances in order to keep the PES program, i.e. to continue working hand in hand with communities, allowing them to actively participate in decision-making activities and articulate actions with state and federal governments. In this respect, Jorge Rickards, Conservation Director for WWF in Mexico, considered that the governance of the RBMM will always be difficult due to the form of social ownership of the land and because it is under the jurisdiction of two states. Despite these difficulties, achievements have been made in forest conservation, which are largely due to the work carried out by the CSOs working in the area.²³

3.4 Tourism in the RBMM

Since 1986, forestry activities (wood and resin production) in the RBMM have decreased by more than 60%, as a result of the environmental restrictions generated by the decree for the protection of the monarch butterfly

²⁰ Socioeconomic and environmental characterization of the properties involved in the Monarch Butterfly Conservation Fund. Biologist Eligio Garcia Serrano, M.D.R. Jose Antonio de la Cruz Hernandez, Mexico 2005.

²¹ Ibid.

²² Interview with Eligio Serrano Garcia, Coordinator of the Monarch Butterfly Fund. Mexico City, March 13, 2014.

²³ Interview with Jorge Rickards, Conservation Director at WWF. Mexico City, March 10, 2014.

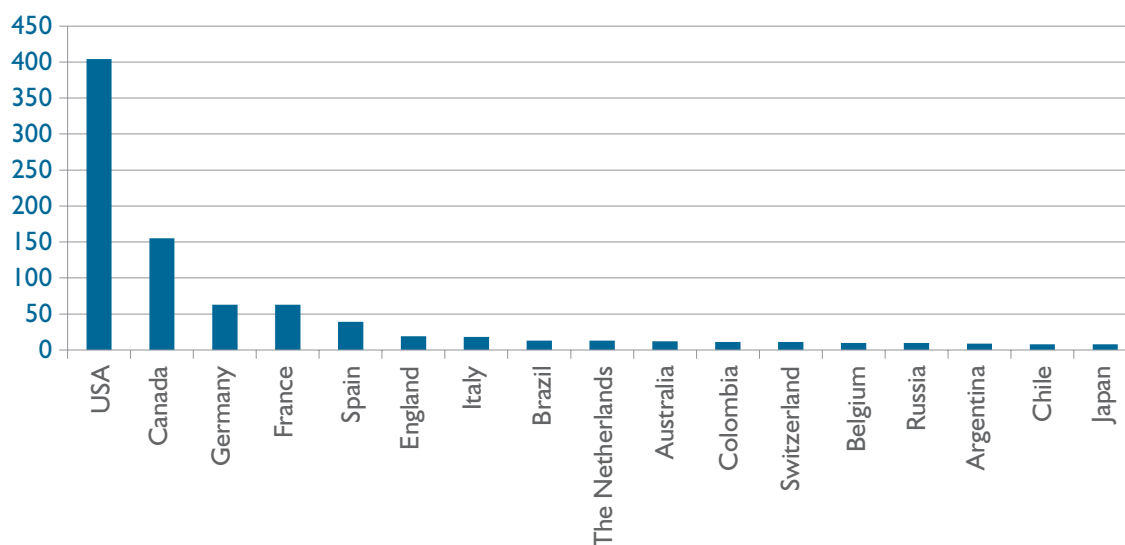
and the amending decree in 2000. As an alternative to counteract the limitations imposed by the new decree, other economic activities such as tourism, handicraft marketing, honey production and trout farming were promoted, among others²⁴ Among these activities, tourism is the activity that is becoming increasingly more relevant due to its high potential for generating resources. In recent years, the number of both national and international tourists has increased as a consequence of greater international visibility on the area. For example, during the 2012-2013 winter season in North America (until March 31), tourism figures show a significant increase of 56% as compared to the visits during the same season in the period 2011-2012, as shown in Table 4.²⁵

Table 4. Tourism in 2012-2013

Sanctuary	Number of visitors
El Rosario	47,776
Sierra Chincua	21,369
Senguio	572
La Mesa	1,631
Capulin	211
Macheros	1,032
Total	72,591

Ninety-nine percent of the total of visitors are Mexicans and come mainly from the Federal District of Mexico, from the states of Michoacan, Guanajuato and Jalisco. At international level, visitors come mostly from the United States, Canada, Germany, France and Spain, as shown in Figure 4.²⁶

Figure 4. International attendance to the RBMM. Conanp



Furthermore, it should be mentioned that the entire RBMM region is rich in natural attractions. Nevertheless, tourist attention has focused exclusively on the visit to the colonies where the monarch butterfly hibernates, which could also be considered a problem due to the excess pressure that this puts on these colonies. These are located in the area of six common lands, of which only four sanctuaries are opened to the public (El Rosario, Sierra Chincua, El Capulin and La Mesa).²⁷ There are other attractions in the RBMM such as waterfalls, springs, crystal clear waters, mountain landscapes, lush forests of firs and pines, forests mountain with rich flora (orchids, bromeliads, tree ferns, multicolored mushrooms, among others), places for the practice of extreme sports such as rappelling and hiking, mountain biking and adventure tourism. If the advantages of these other attractions could be capitalized on for tourist activities throughout the year, this could contribute to the diversification and generation of tourism revenues for the benefit of a greater number of communities and in turn, could reduce the pressure on the hibernating colonies of monarch butterflies.

²⁴ Document shared by FMCN's liaison office at Conanp. 5. Alternatives for the diversification of tourism in the Monarch Butterfly Biosphere Reserve and support requirements.

²⁵ Document shared by FMCN's office at Conanp. 1. Season 2012-2013, tourism report.

²⁶ Document shared by FMCN's office at Conanp. Tourism Report. Season 2012-2013.

²⁷ Document shared by FMCN's office at Conanp. 4. Catalogue of RBMM services.

“The monitoring of the colonies of monarch butterflies, carried out by the Conanp, FMCN and WWF, revealed that the number of monarch butterflies that completed their migration in the Mexican forests decreased in 2012-2013 to its lowest level”

In relation to the entrance fees to sanctuaries, these ranged between three and four dollars in 2013. Considering the growing tourist influx, total ticket revenues are an important funding source. However, given that the fee per person is not high, the deficit of the RBMM is remains at 25% to 30%.²⁸

4. The Endangered Monarch Butterfly, a Problem that Transcends Borders

During their migration to the south, each year the monarch butterflies travel three countries during October and November; in this long journey only one generation of monarch butterflies covers the flyway. The migration from south to north in February encompasses three generations of butterflies and requires the presence of milkweeds along the way to deposit their eggs and feed.

Figure 5. Important host plants for monarch butterflies



The monitoring of the colonies of monarch butterflies, carried out by the Conanp, FMCN and WWF, revealed that the number of monarch butterflies that completed their migration in the Mexican forests decreased in 2012-2013 to its lowest level in the last two decades. It is argued that this is caused by the change in some agricultural practices in North America, specifically because of the agricultural industrialization in the United States and the use of new generation herbicides. This has resulted in an alarming reduction in the number of milkweeds,²⁹ which has a particular impact on the south-north migration of the monarch butterfly.

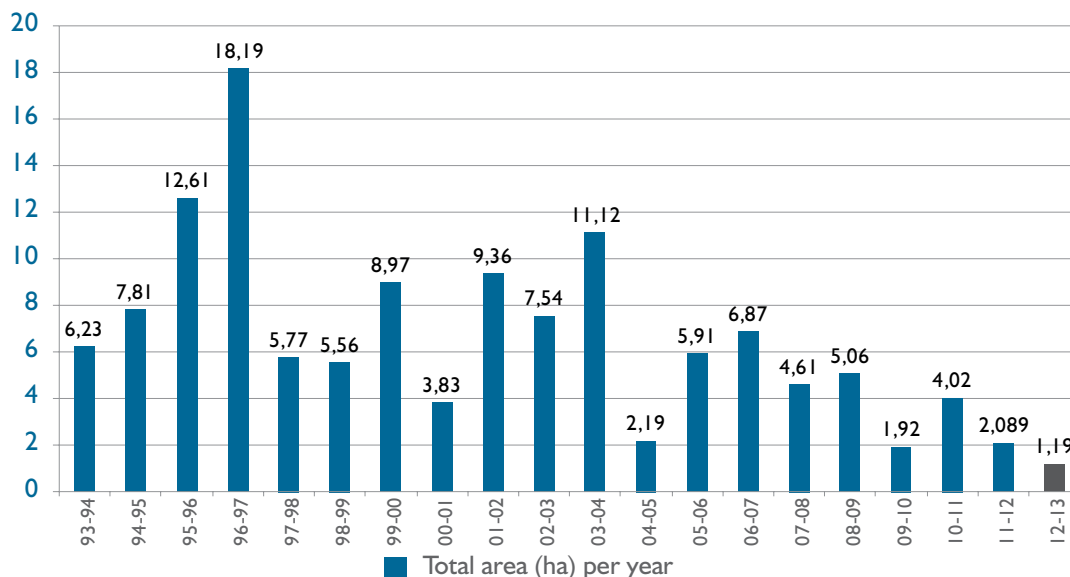
²⁸ Ibid.

²⁹ Meeting with the Director of the RBMM, Gloria Tavera, at Conanp, David Gutierrez and Alfredo Arellano, officials of the Conanp and FMCN. March 14, 2014.

In addition to the reduction of milkweeds, it is believed that another factor that has had an influence on the decrease of monarch butterflies is the increase of temperature, exacerbated by the effects of the climate change. This has disarranged its reproductive cycle forcing the species to lay eggs before reaching its normal cycle. Furthermore, the blooming of the milkweeds that produce the nectar they feed from has also been affected, which has resulted in an important biological imbalance during migration.³⁰

Figure 6 shows that the number of hectares occupied by butterfly colonies in the RBMM has varied from one period to another, evidencing a clear downward trend. According to official sources, the hectares occupied by the butterflies have decreased by 59% between 2012 and 2013. This indicates a serious imbalance in the trophic chain and the ecosystem at continental level.

Figure 6. Size of hibernating colonies³¹



The good news for Mexico and the world is that, due to the efforts made by the Mexican authorities, CSOs and the communities that inhabit the region of the monarch butterfly, deforestation in the core area of the RBMM has declined from 731 hectares in the period 2005-2007 to just 16.6 hectares in the period 2012-2013. Scientist and experts commented on these positive changes as follows:

“The actions of the federal Government, led by the Semarnat and the Governments of the States of Mexico and Michoacan, to protect these forests as well as the commitment and continuous financial support for more than one decade by philanthropists and Mexican organizations – including FMCN and WWF - in order to generate new sources of revenues for local communities, resulted in the decline of large-scale illegal logging in one of the most iconic protected areas in the world, which went from 731 ha affected in 2005-2007 to none in 2012.”³²

The public policies for the protection of the ecosystem in Mexico as well as the initiatives from national and international conservation organizations and donors such as the Packard Foundation, have been linked to community participation and have yielded very good results in relation to the conservation of the hibernation habitat of the species in Mexico. Thus, the key question is: why is the number of butterflies arriving to the RBMM decreasing?

Even though the Mexican Government together with the actors involved in the RBMM have generated very good results for the conservation of the area, the flyway involves two other countries, United States and Canada, and they should also commit themselves to the maintenance of the resources required by the monarch butterfly as it travels throughout their territories. As a result, the pressure to carry out more and better conservation actions, which previously rested solely on Mexico, must be applied to the United States and Canada; i.e., multilateral commitment and coordination are necessary to protect this species.³³ Mexico has invested many resources and has managed to eliminate deforestation in the core area the RBMM. Now it is the responsibility of the United States and Canada to strategically contribute to the conservation of this species.³⁴

³⁰ Ibid.

³¹ http://www.wwf.org.mx/noticias/noticias_mariposa_monarca.cfm?208325/registra-monitoreo-la-superficie-mas-baja-de-mariposa-monarca-en-mexico-en-20-anos

³² Vidal, O. Lopez J. Rendon. E. Trends in Deforestation and Forest Degradation after a Decade of Monitoring in the Monarch Butterfly Biosphere Reserve in Mexico. Conservation Biology, 2013.

³³ Interview with Jorge Rickards, who worked in the WWF. Mexico City, March 10, 2014.

³⁴ <http://www.sumatealaodisea.org/1/category/noticias/1.html>

The alarming reduction in monarch butterflies in hibernation sites during the 2012-2013 season has made it urgent for the three countries to develop a joint effort. This is not the first time that trilateral cooperation has been developed for the protection of monarch butterflies, since 20 years ago, with the signing of the North American Free Trade Agreement (NAFTA), the three countries agreed to protect migratory species such as the monarch butterfly, the gray whale and waterfowl. It is worth noting that the monarch butterfly is part of the logo of the Commission for Environmental Cooperation (CEC), which is a trilateral institution of the NAFTA (Figure 7).³⁵

Figure 7. Logo of the Commission for Environmental Cooperation



The 2010-2015 Strategic Plan and other recent documents of the CEC do not raise any key actions to protect the migratory route of the monarch butterfly. The North American Monarch Conservation Plan was published in 2008, but beyond the proposal of including specific policies and actions to improve the biological status of the species, it's a diagnosis of the situation of the butterfly where it was concluded that, for its protection, Mexico, Canada and the United States must join forces to ensure the availability of: i) appropriate and sufficient habitat in the hibernation territories in the United States and Mexico for the populations to persist, and ii) sufficient reproduction and migration habitat in these three countries. In addition, the following specific conservation actions are identified:³⁶

- Reduce logging and preserve the hibernation ecosystem and at the same time, support the sustainable development and the management of the forest.
- Effectively preserve the migratory route, based on research and monitoring to identify the main migration routes in spring and autumn.
- Promote among government agencies, private conservation organizations and public and private landowners, land use practices that support the reproduction of the monarch butterfly.
- Provide incentives to communities such as the PES.
- Monitor the distribution and abundance of the population of the monarch butterfly as well as the quality of its habitat, and use monitoring data to understand the factors that favor the recovery of butterfly populations, as well as the diagnosis of the biological and socioeconomic factors that stabilize the population dynamics of the species.

Until 2013, the coordination of efforts and joint actions by these three countries has been limited, so none of the above objectives has been achieved. To this day, achievements have been made because of government or private initiatives at national level, especially in the case of Mexico.³⁷ The Conanp has indicated that for almost six years, the issue of the monarch butterfly not has not been addressed again at the CEC.³⁸ Hence, despite the fact that the Government of Mexico, the Mexican society, Mexican companies and especially communities and common land owners have carried out their job, it is not enough if the species is not protected throughout its migratory route. In other words, without joint action between the three countries involved in the problem, the danger of affecting the migration phenomenon will remain latent.

In February 2014 dozens of scientists, artists, writers and environmentalists urged the leaders of Mexico, Canada and United States to devote a portion of the NAFTA meeting of that year (on the occasion of the 20th

³⁵ The CEC receives financial support from the Governments of Canada (through the Federal Ministry of the Environment) the United States of America (through the Environmental Protection Agency) and Mexico (through the Semarnat) and its mission is the preservation, protection and improvement of the environment of North America. Consulted in June of 2014 at: http://www.cec.org/Page.asp?PageID=1226&SiteNo=1&ContentID=310&BL_ExpandID=895

³⁶ CEC. North American Plan for the conservation of the monarch butterfly 2009.

³⁷ Ibid.

³⁸ Meeting with the Director of the RBMM, Gloria Tavera, at Conanp, David Gutierrez and Alfredo Arellano, officials of the Conanp and FMCN. March 14, 2014.

“It is necessary to inform the population in Mexico, the United States and Canada about the problem facing the monarch butterfly”

anniversary of NAFTA) to discuss ways to protect the monarch butterfly.³⁹ A letter sent to the three leaders, signed by more than 150 intellectuals, made reference to the fact that the monarch butterfly population had fallen to its lowest level since it began to be recorded in 1993. It was explicitly stated in this letter that the reason lies in the lack of joint regional actions and local actions by the Governments of the United States and Canada. In the United States, the work has been mainly carried out by CSOs and colleges. Due to the lack of government participation, the actions undertaken in the United States and Canada have lacked the scale necessary to counteract the serious threat regarding the extinction of the species.

As part of the solutions produced, different Mexican and international organizations proposed a reduction in the use of herbicides in the United States; as well as creating a transcontinental corridor of milkweeds.

It is necessary to inform the population in Mexico, the United States and Canada about the problem facing the monarch butterfly. The civil society, in each of these countries, can urge their government to perform the large-scale actions required.

5. Production of the Imax Film “The Flight of the Butterflies”

While the Governments of Canada, United States and Mexico coordinated their efforts in order to establish a joint strategy focusing on the protection and conservation of the monarch butterfly and its habitat, independent projects are simultaneously generated which focus not only on these objectives but also on raising the awareness of society in regard to the serious problem to which the species and its habitat are exposed. The case of the production of the IMAX 3D film on the monarch butterfly, titled “The flight of the butterflies” is presented below. Multiple benefits have contributed to this initiative; including among these, the creation of a platform to integrate different sectors, as in addition to the producer, the Government of Mexico at state and federal level, private companies and CSOs, notably FMCN, participated in the film.

5.1 FMCN and the seventh art

In 1998, Lorenzo J. de Rosenzweig, CEO of FMCN, was part of the Advisory Committee of the San Diego Natural History Museum, California (United States), which, among other activities, had an environmental research and education program in the Baja California peninsula, a region of interest for FMCN. This Committee decided to produce an IMAX documentary called “Ocean Oasis” in which FMCN participated as one of the members of the international advisory committee. This initiative made it possible for FMCN, as a Mexican financial intermediation conservation institution, to become involved in the project through activities related to the search for financing. However, the support of FMCN was not necessary in the end.⁴⁰

The interest in this type of documentaries resulted long after in the possibility for FMCN to start a fundraising campaign to replicate this experience in another film project. For this purpose, a draft project was prepared with the director of “Ocean Oasis,” Soames Summerhays, for the production of an IMAX film on the Mesoamerican Barrier Reef System. However, the Board of Directors of FMCN decided not to participate in the project due to the financial risk involved.

Finally, a new opportunity to participate in a film project presented itself in 2010. Maria Elena Gutierrez and Robert Sullivan, directors of Chora, a consulting firm specializing in strategic and education projects, informed FMCN that they were involved in the realization of an IMAX film the main theme of which was the migration phenomenon of the

³⁹ http://www.huffingtonpost.com/2014/02/14/leaders-discuss-monarch-butterfly_n_4786218.html

⁴⁰ Interview with Lorenzo J. de Rosenzweig, CEO of FMCN. 2014.

monarch butterfly and that the initiative was in preproduction stage, specifically in the search for financing.

Simultaneously, the Secretariat of Tourism (Sectur), through Alejandro Moreno, Undersecretary for Tourism Operation, and the Conanp, through Ernesto Enkerlin H., its principal, extended an invitation to FMCN to participate in the project as a partner that would benefit from the profits of the film to be channeled to conservation and community development actions in the RBMM. In addition, both the Sectur and Conanp requested FMCN to participate in the attainment of supplementary financial resources from the national and international private sector.

After this first approach both of the government and producers, the Board of Directors of FMCN expressed its interest in this project in support to the conservation efforts carried out for more than one decade in the RBMM. Jonathan Barker, producer of the film and Director of SK Films, traveled to Mexico several times to discuss with FMCN the possibility of collaborating in the initiative. Furthermore, during his trips to Mexico, the Director of SK Films contacted other institutions interested in supporting the film. They noted that the involvement of FMCN in the project, to manage any potential benefits, would make them more confident, considering its experience and distinction in the management of financial resources for PNAs. All these factors have been thereby conducive for FMCN to participate in the film project titled “The Flight of the butterflies.”

5.2 “The Flight of the Butterflies”: description of a dream

5.2.1 *Synopsis of the documentary*

“The Flight of the Butterflies” is a film production recorded on a 3D digital format for IMAX platform, the objective of which is to capture the migration phenomenon of the monarch butterfly between Canada and Mexico and describe the story of how a Canadian scientist and his wife “discovered” its hibernation sites in the States of Michoacan and Mexico. Through cutting-edge technology on a film format, viewers are transported to the incredible microcosm of the monarch butterfly. The film will be shown in more than 40 countries and 150 cities around the world, which is a unique vehicle to promote the natural capital of Mexico and raise funds for the conservation of the sanctuaries of the monarch butterfly.

“The Flight of the Butterflies” is much more than a 3D show, it is a comprehensive educational project, which aims to teach about the biology, life cycle and habitat of this butterfly. The migration phenomenon is used to demonstrate basic concepts about ecosystems,

biodiversity and the interconnection of species. The film conveys knowledge about the surprising biological phenomenon of the migration of this species and the history of the scientific work that led to solve the mystery about its hibernation sites and migratory route.

Jonathan Barker and Mike Slee, director of the film, experts on the 3D technique, considered that this format would be best suited to convey the details of the migration to a biological and ecosystem level, while at the same time leaving an impression on the public. “The Flight of the Butterflies” addresses scientific and biological enigmas about the monarch butterfly that have been studied for decades. The production of the film is based on academic and scientific research to tell the story of the butterfly more accurately; its journey through North America to the sanctuaries in the States of Mexico and Michoacan; the ecological and scientific importance of its discovery; as well as the cultural context and folk traditions of the communities that celebrate its existence and migration.

The documentary has a strong focus on the discovery of the flyway and hibernation sites. It tells the story of the Canadian Fred Urquhart; who is responsible for the discovery, and his wife Norah, who devoted nearly 40 years of their lives to the investigation of the monarch butterfly and for which they founded the Insect Migration Association (known today as Monarch Watch). They welcomed thousands of volunteers throughout North America who contributed to the discovery of the migratory route of the species through tagging and recapture techniques⁴¹

The film follows the story of butterfly PS 397, which was tagged and released by two students and their primary school teacher in the city of Chaska, Minnesota (United States), in August 1975. This same butterfly was found four months later, in January 1976 in Cerro Pelon (today part of the RBMM). Fred and Norah traveled to the hibernation site with Kenneth Brugger and Catalina Aguado, key protagonists in the discovery of the sanctuaries. After the label was identified, Fred continued collecting evidence to reaffirm the fact that these butterflies migrated from Canada and the United States.

The only person of the research team that is still alive is Catalina Aguado, who accompanied the team of SK Films and contributed for the history to be faithfully replicated.⁴² Although the film was not recorded on Cerro Pelon, a similar place was chosen: the El Rosario sanctuary, considered to be the most visited of the RBMM.⁴³

⁴¹ <http://www.flightofthebutterflies.com/discovery-story/>

⁴² *Ibid.*

⁴³ Meeting with the Director of the RBMM, Gloria Tavera, at Conanp, David Gutierrez and Alfredo Arellano, officials of the Conanp and FMCN. March 14, 2014.

5.2.2. From an idea to reality: Fundraising for the film “The Flight of the Butterflies”⁴⁴

As noted above, the idea of the project consisted of capturing the history of those who discovered the migration of the monarch butterfly in a film on IMAX format, narrating not only the investigative work performed, but also explaining the surprising migratory journey of this species, which is one of longest journeys made by any insect species in the world.⁴⁵ That is why one of the objectives of the film is helping the public to understand this magnificent natural process, which is currently at risk due to the intervention of men.

The two non-financial objectives of SK Films to make this film, according to producer Jonathan Barker, were:⁴⁶

1. To raise greater awareness in the public about the fragility of the biological cycle of the monarch butterfly and its migration process.
2. Understand the importance of milkweeds, as host plants, for the monarch butterfly.

If these two goals are analyzed, it can be inferred that the communication and awareness-raising objectives that the world scientific community has called for with respect to this issue are concurrent. Likewise, these objectives are largely related to the conservation efforts expected from Canada and the United States, specifically, to contribute in the protection of the migration route of the monarch butterfly because of its importance for the life cycle of the species.⁴⁷

The preproduction of the film began in 2005. A search for financial resources to develop the project started in mid-2006. SK Films secured funds from the National Science Foundation (NSF), which contributed with three million dollars. Since the total production budget amounted to 12 million dollars (Table 5), it was necessary to identify additional funding sources; and due to the nature and subject matter of the project, it was decided to seek funds in Mexico. To this end, Chora assumed fundraising functions and FMCN formulated a first financial architecture strategy and developed an action plan taking advantage of the interest of the Government of Mexico to promote ecotourism and the natural heritage of the nation in contrast to the image of the country's violence.

The efforts carried out by FMCN in coordination with SK Films resulted in the raising of four million dollars from the Government Federal, through the Semarnat and Sectur, one million dollars from the Governments of the States of Mexico and Michoacan, and a contribution from the private sector in an amount of approximately 1.6 million dollars from Grupo Bimbo S.A.B. de C.V. (Grupo Bimbo) and Fomento Economico Mexicano S.A.B. de C.V. (FEMSA), who benefited from a legal tax incentive and the exposure of their social responsibility activities to the media.

Table 5. Budget of “The Flight of the Butterflies”

Category	Amount in Dollars
Design, planning and fundraising	870,000
Production	6,969,559
Postproduction	1,176,200
Environmental Education	800,000
Other costs	2,193,241
Total	12,000,000

Obtaining all the funds necessary to carry out the film took four and a half years. The fundraising process was long since institutions and companies do not frequently finance such projects. Moreover, the participation of the Mexican Government was not easy since it was difficult to justify the investment of public resources into private documentaries. However, because of the participation of FMCN and the innovative vision and capacity of the federal government, this problem was solved. Table 6 shows the details of the contributions to the project from each of the institutions.

⁴⁴ Interview with the President and CEO of SK Films, Jonathan Barker. 2014.

⁴⁵ <http://www.mariposasmonarca.com/>

⁴⁶ <http://www.cronica.com.mx/notas/2014/814630.html>

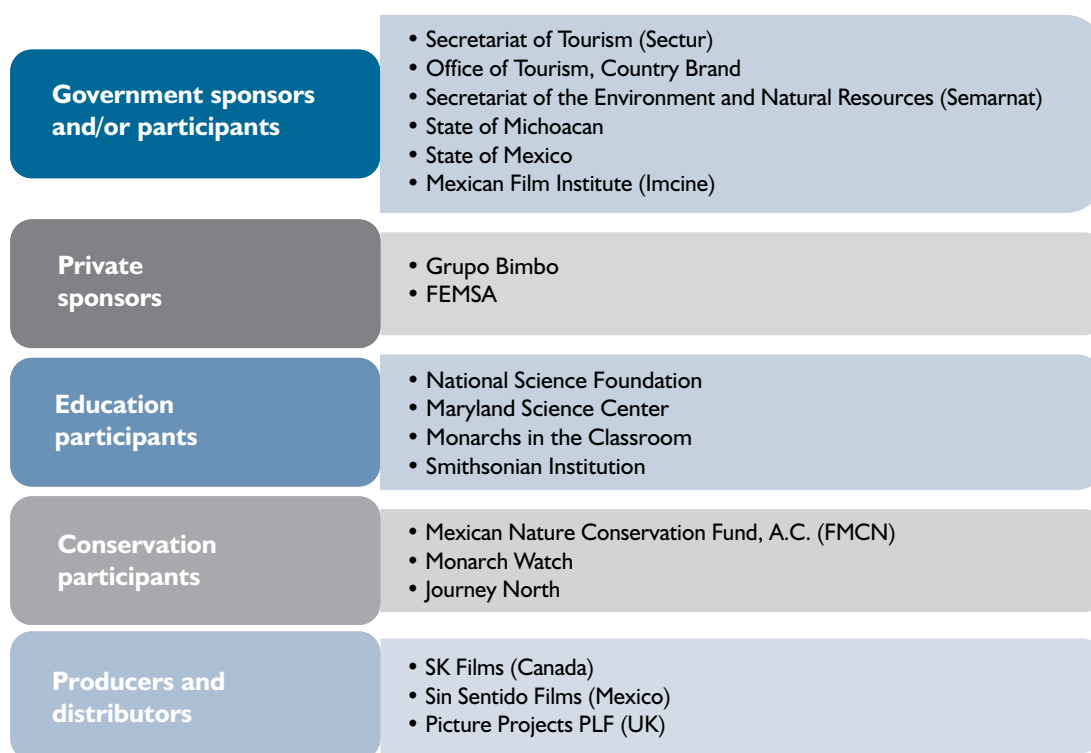
⁴⁷ CCA, 2009.

Table 6. Funding sources for “The Flight of the Butterflies”

Type	Source	Millions of Dollars	%
Federal Government of Mexico	Sectur	3.0	33%
	Semarnat	1.0	
State Government of Mexico	Government of the State of Mexico	0.5	8%
	Government of the State of Michoacán	0.5	
U.S. Government Agency	<i>National Science Foundation</i>	3.0	25%
Private Sector	Grupo Bimbo	0.8	7%
	FEMSA	0.8	7%
		2.4	20%
Total		12,0	

The production of the film took 18 months and its release took place on September 22, 2012 in Washington, D.C. Many private and public actors collaborated so that “The Flight of the Butterflies” became a reality. Figure 8 shows the actors and their classification.

Figure 8. Participants in the realization, broadcasting and promotion of the film



5.2.3. The film as a promotional mechanism of tourism in Mexico

Felipe Calderon Hinojosa, President of Mexico (2006-2012), when referring to the film “The Flight of the Butterflies,” indicated that it was important to use it to arrange an intelligent, differentiated and competitive tourist offer. The film represented an interesting and innovative tool to achieve the objectives of attracting quality and differentiated tourism interested in the natural wealth of Mexico. In other words, the screening of the film in the most important museums and science centers in the world was perceived as a unique opportunity to promote Mexico in 40 countries and 150 cities as a cultural and natural tourism destination. The museums and science centers where the film was screened or is to be screened include:⁴⁸

- *Smithsonian Institution, Washington, D.C., United States (premiere).*
- *The Museum of Science and Industry, Chicago, Illinois, United States.*
- *California Science Center, Los Angeles, California, United States.*

⁴⁸ Presentation shared by FMCN. FOB August 17, 2011. Executive Presentation, October 1, 2010.



- *Ontario Science Centre, Toronto, Ontario, Canada.*
- *American Museum of Natural History, New York, United States*

To enhance the impact of the film as a tool for promoting tourism to Mexico, a series of strategies and promotional materials were developed, among which stands out the preparation and distribution of educational material, as well as the use of the film for formal events and the country's tourism promotion.⁴⁹ . The media plan with which the Government supported the promotion of the film was designed by the Mexico Country Brand.

The Mexico Country Brand⁵⁰ initiative was born in 2010 by decision of the President of Mexico, Felipe Calderon Hinojosa. Gloria Guevara, Secretary of Tourism, was appointed as head of the initiative, whose field of action was not limited to purely tourist issues but also to building the brand and to the promotion of the image of the country internationally. This initiative was intended to define and implement strategies to improve Mexico's image abroad and reduce the gap between perception and reality based on three elements: i) tourism and culture, ii) economy and investment, and iii) sustainability. Under the concept of these elements, the project "The Flight of the Butterflies" was deemed consistent with the Mexico Country Brand objectives, so it was reasonable for the initiative to actively collaborate with the promotional campaign of the film.

In order to coordinate the messages of communication campaigns, the Mexico Country Brand joined the communication strategy of the film when it was already underway.⁵¹ The media plan began in October 2012 and ended in March 2013 and received extensive coverage around the world, with a strong emphasis in the United States and Canada.

Although this production was thought as the perfect vehicle to "promote a world class community tourist destination model in the region of RBMM (Sectur-Conafor-Conanp)",⁵² the Conanp considered that there should be a plan whereby the growth of the tourist influx would serve to obtain greater support for the communities in the Reserve, so they could have adequate infrastructure to receive visitors. All these actions in support of the RBMM promotional campaign must be reflected in the management plan of this territory, especially in regards to the assessment of the carrying capacity, with a fundamental study to attain the conservation objectives of the RBMM.⁵³

⁴⁹ Presentation shared by FMCN. FOB August 17, 2011. Executive Presentation, October 1, 2010.

⁵⁰ Currently, the Mexico Country Brand is part of the Presidency of the Republic. This led the initiative to have greater authority to coordinate the unified message that each State Secretary's Office was to convey.

⁵¹ Interview with Eva Farias and Samantha Calderon from Mexico Country Brand. March 2014..

⁵² Meeting with Gloria Tavera, Director of the RBMM and other members of the team of the Conanp and FMCN. March 14, 2014.

⁵³ Ibid.

“The efforts carried out by FMCN in coordination with SK Films resulted in the raising of four million dollars from the Federal Government, one million dollars from the State Governments and a contribution from the private sector in an amount of 1.6 million dollars”

“The Flight of the Butterflies” was screened for eight months at Papalote Museo del Niño and was watched by more than 200,000 spectators. The grossing of the film has placed it as the second most-watched movie in the history of the museum, after the film “To The Arctic.” The premiere of the film in Mexico, in this Museum, was held on October 12, 2012. Thirty-five representatives of the common lands that are part of the RBMM were invited. These representatives were pleased by the experience; however, some of them questioned the exclusive approach on the discovery of the butterfly and the manner how the communities that live within the RBMM were portrayed in the film, which did not reflect reality. Among other things, the communal representatives expressed their disagreement with a scene of the film showing an armed individual interacting with two of the characters in the movie (Kenneth Brugger and Catalina Aguado); a scene that they thought could be misinterpreted and further reinforce the image of violence that Mexico has had in the world as a result of the armed conflict derived from drug trafficking.⁵⁴

In this regard, Lorenzo J. de Rosenzweig, CEO of FMCN, stated that the narrative of the life of Fred Urquhart and the film's plot seemed interesting in general; nevertheless, certain scenes such as that of the armed person and the children who did not know the butterflies, seemed to detract the cultural value of communities and their relationship with the species.⁵⁵

5.2.4 Role of Mexican sponsors in the film “The Flight of the Butterflies”

5.2.4.1 Federal Government

The Sectur, which brought 75% of the total federal source funds, considered that supporting this initiative would offer a tool to position Mexico's image by highlighting the natural wealth of the country, a task in which it had been working since long ago, through the Mexico Country Brand initiative.

The Sermanat, through the Conanp, contributed with 25% of the total federal resources. As an instrumentality of the government it considered that it was an opportunity not only to promote one of the most emblematic PNAs in the country worldwide, but also with the profit-sharing agreements negotiated by FMCN, to strengthen the financial self-sufficiency of the RBMM and therefore improve the conditions of life of the communities of the region.

For Eva Farias, Strategy Director of the Mexico Country Brand, the objectives of film production were in line with the objectives of the institution at that time, which emphasized on reducing the gap between the global perception of violence and the reality of Mexico. This last objective was the main motivation for the participation of the Mexican Government on this film project, not only with financial resources and promotional activities but also with active and direct participation from the President of the Republic, Felipe Calderon Hinojosa, who recorded a promotional video of the movie and attended the world premiere on September 22, 2012, at the Smithsonian Institution National Museum of Natural History, in Washington, D.C.⁵⁶

5.2.4.2 The Mexican Film Institute and the private sector

The Mexican Film Institute (Imcine) is a decentralized public agency that promotes the development of cinematographic activities in Mexico by supporting the production, encouraging creators and industrial development and through the promotion, distribution, broadcasting and dissemination of Mexican film industry. It was created in 1983 with the objective of establishing a policy for the promotion of the Mexican audiovisual sector and to strengthen the values, customs and ways of life of the nation.⁵⁷

Since 2005, a fiscal stimulus has been implemented for companies that support national cinematography, regulated by the Income Tax Law (LISR). This stimulus

⁵⁴ Ibid.

⁵⁵ Interview with Lorenzo J. de Rosenzweig, CEO of FMCN. 2014.

⁵⁶ <https://www.youtube.com/watch?v=Y5MhWiyhB7w>

⁵⁷ <http://www.imcine.gob.mx/el-instituto.html>

is supervised by the Inter-Agency Committee for the Application of the Fiscal Stimulus for Investment Projects on National Film Production (Eficine). The stimulus consists of a tax credit against the income tax payable by companies, equivalent to the amount contributed to investment projects related to national film production and the distribution of national cinematographic films. This stimulus is limited to approximately 800 thousand dollars per company, per film, per year.

In the case of “The Flight of the Butterflies,” this stimulus was a good alternative for funding the project. However, the production had a problem since it was not a Mexican production per se, despite the fact that an important part of the production concentrated in Mexican territory. For this reason, to carry out the project, SK Films associated with the Mexican producer Sin Sentido Films. This alliance made possible to obtain the national seal required by the film to attract resources from Mexican private companies seeking tax benefits. After the alliance between SK Films and Sin Sentido Films had materialized, FEMSA and Grupo Bimbo, Mexican private companies, decided to join the project with a contribution of 800 thousand dollars each.

5.2.4.3 *Fomento Economico de Mexico S.A.B. de C.V.*

FEMSA is a Mexican company headquartered in Monterrey, Mexico. It is the largest beverage company in Latin America and the second largest of the Coca-Cola system in the world.⁵⁸

With support from Maria Elena Gutierrez, director of the consultancy firm Chora, FMCN submitted to FEMSA, through Genaro Borrego Estrada, Director General of Corporate Affairs, the investment proposal related to the film “The Flight of the Butterflies.”

The proposal was revised by FEMSA’s committee, which advised the Executive Committee to invest in the film. According to Luis Felipe Quiros, Director of Public Relations for FEMSA, the interest of the company was not only in the tax benefit derived from the investment, but also that the project was consistent with its “Monarch Butterfly Protection Program.” This program consisted of promoting Mexican artists, allowing them to express their works related to the monarch butterfly in limited edition bottles of Coca-Cola (Figure 14), in the contest “Your reason for believing in a better Mexico.” At the end of the program, these limited edition bottles were auctioned, raising funds for the establishment of a nursery aimed at increasing the number of fir trees, an important species for the hibernation of the monarch butterfly in the RBMM.

Figure 9. Collectible bottles of the monarch butterfly



In addition to direct investment in the film, FEMSA carried out other promotional activities related to the same idea: it released commemorative Coca-Cola cans of the butterfly. The exhibition called “Jardin de las Mariposas” was held during the premiere of the film at the Papalote Museo del Niño, which remained open during the entire promotional period of the film. Furthermore, tickets were distributed to FEMSA’s employees, schools and CSOs to watch the film for free.⁵⁹ FEMSA and its philanthropic arm, Fundacion FEMSA, are also important actors in the promotion of integrated forest management and watershed management schemes and therefore of the strategic water supply to important population centers.

5.2.4.4 *Grupo Bimbo*⁶⁰

Grupo Bimbo is a global leading Mexican bakery company. It has operations in America, Asia and Europe, offering over 10,000 products under more than 100 brands. Grupo Bimbo has extensive experience in corporate social responsibility and within this framework it has supported “The Flight of the Butterflies.”

Both FMCN and the producer of the film, Jonathan Barker, considered that this company had the suitable profile to become a potential production ally. For this reason, FMCN met with Ernesto Herrera, Director of Reforestamos Mexico, A.C., a conservation organization with great prestige that was born as a contribution of Grupo Bimbo to the Mexican society, and with Karina Monica Fogel, Inter-Institutional Relations Manager for Grupo Bimbo, to formulate the investment proposal of the film, which was analyzed by a team from Grupo Bimbo. This group came to the conclusion that the message of the film was in line with the philosophy and values of the company, which includes its interest in the care of the environment. Additionally, the technical team also concluded that the film was consistent with two corpo-

⁵⁹ Interview with Luis Felipe Quiros, Public Relations Director for FEMSA. Mexico, March 2014.

⁶⁰ Interview with Karina Monica Fogel, Inter-Institutional Relations Manager for Grupo Bimbo. Mexico, June 2014.

⁵⁸ http://www.femsa.com/es/business/coca_cola_femsa/

rate responsibility programs that Grupo Bimbo was carrying out at the time: 1) the program “Sembrando Juntos,” which was aimed at the protection and conservation of the planet, and 2) the work of the organization Reforestamos Mexico, A.C., focused on forestry sustainable development issues in conjunction with common land owners and communities from different areas of the country, including the RBMM.

For these reasons, the Executive Committee of Grupo Bimbo, comprised of directors of the company, decided to invest 800 thousand dollars in the production of “The Flight of the Butterflies” and also decided to actively participate in the sponsorship of the exhibition of the documentary in Mexico.

5.2.5. The role of FMCN in “The Flight of the Butterflies”

The context and the general proposal of this film project were attractive to the Government, private enterprises and CSOs in Mexico. Not only because the project was appropriate as a promotion mechanism to improve the image of Mexico in the world, but also because it was considered to be a profitable investment that would generate direct earnings to support community and conservation projects in the RBMM and its sanctuaries. In relation to this, a percentage of the revenues from the film were expected to be channeled to the sanctuaries through a long-term and transparent financing mechanism such as FMCN.⁶¹

FMCN’s participation in the production of “The Flight of the Butterflies” was motivated by the component preservation of the film. The directors of FMCN considered the proposal of receiving a percentage of the profits from the film and allocate it to the MBF and other CSOs to finance conservation activities in the RBMM as very attractive.

5.2.5.1 FMCN and producers

FMCN signed an agreement with the producers SK Films and Sin Sentido Films, whereby at the end of the lifecycle of the film (estimated in seven years), they are required to transfer to FMCN 45% of the earnings (after deducting the contributions made by investors and distribution expenses) to invest them in conservation actions for the RBMM. Similarly, minimum profits of 500 thousand dollars for FMCN have been specified in said agreement in the most pessimistic scenario (little or no profits). On the other hand, FMCN agreed to invest a minimum of 50 thousand dollars per year during the first five years of screening of the film; funds that would be intended to implement a fundraising campaign, using the film as the media basis for social networks.

FMCN also participated in the management and coordination of actors, including the Federal Government, which took FMCN nearly two years to accomplish and required recruiting a consultant to be in charge of the issue. FMCN was not responsible for the negotiation activities with the Government; however, a more active participation of the organization was required to overcome certain obstacles. One of the most critical moments was when the Secretariat of Public Service informed no public funds could be delivered to a private company. However, the active management undertaken by a group of experts and lawyers provided a solution to this problem. By the end of 2013, the total investment of FMCN, in administrative tasks intended for this cinematographic project, amounted to approximately 100 thousand dollars (amount which did not include fifty thousand dollars payable every year for the promotional campaigns established in the agreement).⁶²

5.2.5.2 Fundraising campaign “Sumate a la Odisea”

As part of the agreement signed between FMCN and SK Films, FMCN committed itself to investing a minimum of fifty thousand dollars annually on communication and/or promotion strategies related to the film. In this context, FMCN decided to create a website to raise donations from individuals (crowdfunding or micropatronage) to support conservation actions in the RBMM. This website was launched on October 12, 2012, date of release of the film, taking advantage of the attention drawn by the event.

Part of the motivation for venturing into an unknown and innovative issue such as crowdfunding comes from the boom worldwide of this type of campaigns for social and environmental initiatives. Moreover, the market consultancy company hired for this purpose, Digital Friks (DF), supported the idea of carrying out a campaign of this kind guaranteeing success in terms of recovering, at least, three times the investment made.

At that time, FMCN had analyzed the possibility of working with DF in other projects; however, such projects did not come to fruition. FMCN assigned the crowdfunding project related to the film to DF and since it had no

⁶¹ FMCN, 2014.

⁶² Interview with Lorenzo J. de Rosenzweig, CEO of FMCN. 2014.

experience in the implementation of this type of fundraising strategies, it fully delegated the control of the project to the consultant.

DF did not support the crowdfunding project strategy with a market research that would determine the target audience to whom the campaign should be directed. On the contrary, DF executives determined ad hoc that target group corresponded to young people between 18 and 25 years of age, not considering that many of them did not have access to electronic payment methods nor had any purchasing power that would induce them to donate a portion of their income. The only advantage identified in this market group was its high activity on the Internet.

On the other hand, the criteria used by DF executives as starting point for the design of the project were purely anecdotal, such as that Mexico was a pioneer in crowdfunding in Latin America and therefore, an initiative like this would have an important reception, as well as the consideration that the time spent by the people of that country on the Internet was increasing. DF executives were unaware of the degree of development of crowdfunding in Mexico and could not account for the level of reception that could be expected for the initiative. DF's strategy focused exclusively on electronic payment methods (i.e. PayPal and Click & Pay). They did not consider that in Mexico, the distrust in online transactions could limit the use of this type of payment mechanisms. If DF would have valued this fact, it could have considered other payment alternatives to facilitate the participation of donors, such as bank deposits or text messages.

The work carried out by DF in terms of contents and design of the webpage was not in tune with official broadcasting and communication strategies for the film. While FMCN provided audiovisual material related to the film, DF decided to use public content as well as content requested from organizations related to the conservation of the monarch butterfly (i.e. those that were part of the core work of FMCN), but that were not directly related to the film. This caused the webpage of the campaign not to be fully connected with the communication strategy of the latter. "Sumate a la Odisea," which was the name chosen by DF for the website, was not in line with the production media plan and did not have the characteristics necessary to be a name that can be recalled.

The results of the campaign were not positive. The amount raised through donations was 852 dollars. Of these funds, 78% came from donors in the United States and only 22% from donors in Mexico, in spite that the latter were the target market of the campaign. The return on the investment for FMCN was negative, approximately -98%. In view of these results, DF executives justified their actions by claiming, "it was difficult to promote the conservation of an insect."⁶³

Despite the fact that the financial results of the campaign were negative, FMCN believed that the experience was valuable since it thought many lessons; the main lesson was to recognize the complexity and risks of implementing new indirect fundraising forms, through electronic means. In addition, it was understood that it is not appropriate to fully delegate control of communication campaigns and fundraising strategies to external consultants; conversely, such campaigns must be managed directly by the organization and consultants may only carry out specific support work tasks.

FMCN noticed that, after six months of implementation, the crowdfunding campaign did not generate the results expected. For this reason, its medium-term strategy was decided to be changed in mid-2013 to avoid losing 200 thousand dollars additional to the amount to be invested over the next four years. This also led to rethink its participation in the commercial and promotional strategy of the film and accept a renegotiation of the agreement with SK Films.

FMCN requested SK Films to revise the clause that forced them to invest fifty thousand dollars every year in communications and/or promotion activities, a request that was accepted by SK Films under the condition of reducing the minimum amount to be received from 500 thousand dollars to 300 thousand dollars. Accordingly, an addendum to the agreement was made whereby FMCN was released from the obligation of making annual investments in promotion and/or communication actions and the amount of the contingent payment was reduced to 300 thousand dollars.

In addition, SK Films suggested to adjust the percentage of earnings for FMCN from 45% to 40%, considering that the negotiations with the Government took longer than expected (about two years) and that the funds obtained from the Mexican private sector were lower than forecasted (due to adjustments in the dollar to Mexican peso exchange rate). However, FMCN, for the sake of the transparency with which it manages its projects, argued that for a change of this type to occur the Mexican Government, the main sponsor of the film, should be consulted first.

⁶³ Interview with Raul Gutierrez and Juan Campo, Development Directors for Digital Friks. Mexico, March 2014.



Jonathan Barker, producer of the film, considered the adjustment in the contingent payment from 500 thousand dollars to 300 thousand dollars did offset the profitability of the project for SK Films and that it was not necessary to take discussions to governmental levels, wherefore the profit-sharing percentage of FMCN finally stood at 45%.

5.2.5.3. Situation as of 2014

As of 2014, FMCN is yet to receive any revenues from the film. These are expected to be received by the institution within a maximum period of seven years after its premiere (approximately in 2019). With a conservative estimate based on financial projections taking into account an audience of 25 million people during the useful period of the film, the profit-sharing is calculated (45%) to be between one million and a half and two million dollars, which will be used to strengthen the financial strategy of the RBMM. These funds will be intended to finance conservation activities as well as the regional and community development in the RBMM to improve the living conditions of the rural communities in the region. In the short term, the film and the environmental education programs are expected to improve the knowledge and awareness on the species and its habitat in Canada, the United States and Mexico.

The participation of FMCN in this initiative, in collaboration with governmental authorities, the private sector, the film industry and the communities of the RBMM, opens exploration opportunities for future communication and fundraising conservation efforts. As stated by FMCN “More opportunities will undoubtedly be generated in other geographical areas and in other pressing issues, to publicize the importance of our natural resources and the sound management of the same, essential for the stable and long-term development of the nation. In this way, FMCN will continue with its work of building a better future for all Mexicans.”

Annex 1. Institutional Profile of FMCN

The Mexican Nature Conservation Fund, A.C. (FMCN) is a private nonprofit institution created in 1994, to finance and strengthen strategic actions and projects to preserve the natural heritage of Mexico. This is accomplished through the creation of public-private partnerships, the development of collaborative networks and the financing and implementation of innovative projects for the conservation and sustainable use of biodiversity.

Us

FMCN is one of the largest and most effective environmental funds in Latin America and the Caribbean. Its mission is to build a better future for Mexico through the raising of financial resources, the creation of partnerships,

by learning and taking advantage of opportunities focused on the conservation and use of our natural resources. In close collaboration with the civil society, national and international governmental agencies as well as the private sector, FMCN is recognized as a reference in the search for new conservation mechanisms and tools, the promotion of the exchange of knowledge and the identification of opportunities to contribute to the proper use of Mexico's natural capital.

Our work

In 20 years of operation, FMCN has funded 1,241 conservation projects and invested more than 65 million dollars in the field. It has provided technical and financial support to approximately 275 Mexican organizations, it has received donations from national and international sources and financially strengthened 24 federal protected natural areas in close cooperation with the Government of Mexico. It has created organizations, currently independent, such as the Environmental Communication and Education Fund, A.C. and New Ventures Mexico, A.C., the latter recognized as the main organization promoting sustainable businesses in Mexico. Likewise, FMCN has participated in the design and commissioning process of the Latin American and Caribbean Network of Environmental Funds (RedLAC), a cooperation and dissemination forum of proven practices of more than 30 environmental funds in the region. FMCN is also a founding partner of the Mesoamerican Barrier Reef System Fund (MAR Fund), a regional fund that promotes the conservation of the Mesoamerican Barrier Reef System region. Similarly, FMCN has implemented the MAR Leadership Program, in which training and opportunities are provided to individuals with innovative ideas for the conservation of the reef. In 20 years, FMCN has consolidated a capital of more than 120 million dollars.

Positioning

FMCN is aware of the environmental challenges and needs in Mexico, and has efficient and quality operating and administrative systems, a team of capable professionals and a committed and very prestigious Board of Directors. This makes FMCN an attractive and effective option to manage and raise funds from a wide variety of donors, from multilateral institutions to private foundations and corporations.

Structure

The work team of FMCN consists of 44 professionals located in five offices in the country, who supervise the implementation of four conservation programs: Protected Natural Areas; Forests and Watersheds; Seas and Coasts, and Special and Innovation Projects. The General Assembly is the highest authority of the organization and integrates 32 members. This body is responsible for approving the financial report and annual statements, as well as for recruiting and appointing the members of the Board of Directors.

The Board of Directors is comprised of 19 representatives from various sectors of the society, including businessmen, social experts, academics and members of conservation organizations from the civil society. The incumbent principal of the Secretariat of the Environment and Natural Resources (Semarnat) is an ex officio member of the same. The Board is responsible for overseeing the Director General of the organization as well as approving projects and the annual budget.

The future

As part of the celebration of the 20th anniversary of the institution in 2014, FMCN has launched the 2020 Capital Campaign that is aimed at reaching a goal of 220 million dollars, negotiated and deposited in FMCN before the end of 2020. Similarly, the objective of FMCN is to integrate four cross-cutting issues in all its programs: conservation leadership, capacity-building, mitigation and adaptation to the climate change and the contribution to an effective public environmental policy through the generation of the best knowledge and the strategic dissemination thereof through communication campaigns targeted to key audiences and decision makers.