



**Fourth North American Symposium
on Assessing the Environmental
Effects of Trade**

Phoenix / 23 April

08

R E S E A R C H P A P E R

**Tourism, Trade and the Environment:
Tourism and Coastal Development
in the Mexican Portion of the
Mesoamerican Reef**

DRAFT

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21 April 2008

This research paper was prepared for the CEC Secretariat as part of its Fourth North American Symposium on Assessing the Environmental Effects of Trade (April 2008). The opinions, views or other information contained herein are those of the author(s) and do not necessarily reflect the views of the CEC or the governments of Canada, Mexico or the United States. This draft paper is made available for discussion at the symposium; a final paper will be published this year. Please do not quote or cite.

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Abstract

Using the case of the Mexican portion of the Mesoamerican Reef, this paper presents an analysis of the relationship between trade, tourism development and its impacts on the environment using the framework of the Organization of Economic Cooperation Development for trade-related environmental effects. While tourism-related coastal development is a world wide threat for marine conservation, there is no evidence that trade (measured here as tourism-oriented Foreign Direct Investment) as result of NAFTA and other trade agreements signed by Mexico have changed the historic trend on tourism development (measured here as a continuous increase in hotel rooms without significant environmental regulation) in the Mexican portion of the Mesoamerican Reef. Several studies have shown that the export sector in recently opened economies, such as Mexico from late eighties and post NAFTA, tend to improve their environmental performance over time relative to industries that are not foreign market oriented. Here we consider the tourism sector as a “service export” sector that, according to the arguments above, should observe increased environmental stewardship and performance. Here, we found that: 1. there is a positive relationship between NAFTA, FDI and Tourism Development in the Mexican portion of the MAR; 2. there is a positive relationship between NAFTA and the creation and use of environmental policy tools in Mexico, 3. the use of existing environmental policy tools have yet to achieve their potential positive environmental implications; given mostly to lack of institutional capacity; 4. in general, the urban tourism-related infrastructure does not respect the structure and functions of the ecosystems of the area; 5. it is possible to identify severe environmental damages in the area attributed to tourism development infrastructure.

1. Introduction

A review on NAFTA, tourism development and the environment is needed in Mexico in order to provide answers to the following questions:

1. Has NAFTA been a major driver in the influx of investment into Mexico?
2. Has NAFTA - led Foreign Direct Investment (FDI) inflow been directed toward the tourism sector?
3. Has the considerable inflow of FDI into the Mesoamerican Reef mostly derived from NAFTA - led FDI growth?
4. Has the tourism-related FDI been a source of environmental stewardship in the tourism industry in the Mexican portion of the Mesoamerican Reef?

We believe that exploring this relationship is pertinent for several reasons. First, there is not a simple and clear relationship between trade agreements and tourism development. Tourism itself is an industry that requires both the movement of the customer to the supplier and,

infrastructure that highly demands capital usually foreign direct investment. This means that tourism is one industry that already was “open” to international markets previous to the 1990’s where liberalization started to disseminate world-wide. Additionally, the tourism industry is composed of a significant number of service sectors; as a result, its full economic impact is often not clearly defined within national statistics.

Secondly, it is not clear in which way trade could modify the tourism’s environmental impacts. On the one hand, several studies have shown that the export sector in recently opened economies, such as Mexico, tends to improve their environmental performance over time relative to industries that are not foreign market oriented. On the other hand, there are concerns that countries relax their environmental and labor policies in order to obtain advantages with their commercial partners and obtain increased Foreign Direct Investment (FDI). This is critical as tourism-related coastal development is one of the largest threats and to marine conservation and an opportunity for sustainable development worldwide.

The Mexican portion of the Mesoamerican Reef was chosen for several reasons:

1. The tourism industry in Quintana Roo state relates directly to the second largest reef barrier system in the world. The most significant threats to the reef from tourism are coastal habitat destruction associated with hotel and resort development and the associated infrastructure, water pollution from coastal development and cruise ships, coastal and marine habitat degradation associated with heavy, concentrated cruise visitor impacts, and increased fishing pressure. In the last few years, development pressures in Mexico’s Caribbean coast have skyrocketed. The “Riviera Maya” (an 80-mile stretch of coast between Cancun and Tulum) now boasts an estimated 30,000 rooms, with numbers expected to increase significantly within the next five years. Even in the more pristine “Costa Maya” (160 miles south of Cancun), tourism-related threats are mounting, particularly around the coastal fishing towns of Majahual and Xcalak near the Belize border.
2. The tourism industry has been the subject of public environmental concern in the three countries that signed NAFTA.
3. It is a common assumption that tourism has been the subject of changes in the economic rules set by NAFTA. Specifically the Foreign Investment rules that now are in effect in Mexico, and that have an impact on the region and the tourism industry, have been affected

by the rules set by NAFTA.

4. The sector has been the source of new direct foreign investment from and to all NAFTA parties since 1994.

2. Hypothesis Lay-out

Several studies (Gallagher 2004, Schatan 1999) have shown that the export sector in recently opened economies, such as Mexico from late eighties and post NAFTA, tend to improve their environmental performance over time relative to industries that are not foreign market oriented. Here we consider the tourism sector as a “service export” sector which would be expected to produce a mixed environmental stewardship and performance, as result of five main categories of effects, according to the OECD methodology for trade and environmental effects assessments:

Product Effects – These are associated with trade in specific products which can enhance or harm the environment. Positive product effects may result from increased trade in goods which are environmentally-beneficial relative to competing products, such as energy-efficient machinery, low-sulfur coal, or recyclable containers. Positive product effects would also stem from increased trade in environmental goods and technologies themselves, such as equipment for water treatment, waste management and air quality. Negative product effects may result from increased trade in goods which are environmentally-sensitive, such as hazardous wastes, dangerous chemicals or endangered species. For this analysis we consider three major categories of negative tourism-related effects: depletion of natural resources (water, fish stock, and vegetation), Pollution (on air, water and land) and physical impacts (changes of land use, landscape such as physical destruction of coral reefs, habitat fragmentation). Positive tourism-related effects of tourism might includes: financing conservation activities (both public investment like financing the park system and private schemes of conservation like donations to NGO’s and private parks). Create economic value for resources whose conservation would otherwise be seen as no financial value, these resources includes wildlife (like whales, manaties), natural areas (like wetlands, forest and wilderness areas), build heritage (like archeological sites) and cultural heritage (such as life styles and livelihoods).

Technology Effects -- Technology effects are associated with changes in the way products

are made depending largely on the technology used. *Positive technology effects* may result when the output of pollution per unit of economic product is reduced. Foreign producers may transfer cleaner technologies abroad when a trade measure or agreement results in a more open market and a business climate more conducive to investment. If there are positive scale effects which generate an increase in income levels, the public may demand a cleaner environment as an expression of their increased national wealth, which in turn will generate demand for cleaner technologies, more stringent pollution standards and stricter enforcement of existing environmental laws. *Negative technology effects* or the lack of positive effects may occur if neither of the above scenarios eventuates. Tourism positive effects includes, establish essential infrastructure such as water treatment plans, for residents such as visitors, research on environmentally sound technology and techniques that could be transferred to host communities.

Scale Effects -- Scale effects are associated with the overall level of economic activity or the macro-economic effects resulting from the trade measure or agreement. *Positive scale effects* may result from higher levels of economic growth and financial gain, particularly when appropriate environmental policies are present. *Negative scale effects* may occur when higher levels of economic growth, trade and/or transport bring increased pollution and faster draw-down of resources due to the absence of appropriate environmental policies.

Structural Effects -- Structural effects are associated with changes in the patterns of economic activity or the micro-economic effects resulting from the trade measure or agreement. *Positive structural effects* may result when trade measures and agreements promote an efficient allocation of resources and efficient patterns of production and consumption. *Negative structural effects* may occur when appropriate environmental policies do not accompany changes in patterns of economic activity, and when environmental costs and benefits are not reflected in the prices of traded goods. Tourism positive effects includes: alternative employment source, instead of complete dependency on extractive, manufacturing and agricultural activities. Negative effects include Leakage, infrastructure cost, and prices increasing.

Regulatory Effects -- Regulatory effects are associated with the legal and policy effects of a trade measure or agreement on environmental regulations, standards and other measures. *Positive regulatory effects* result when trade measures and agreements take care to maintain the ability of governments to pursue appropriate and effective environmental policies.

Negative regulatory effects may occur when the ability of governments to enact and implement appropriate environmental regulations is undermined by the provisions of the trade measure or agreement.

The rationale behind this analytic framework is that in order to have a balanced evaluation of the environmental dimension of a specific trade - related policy, or set of policies, each of the five categories should be analyzed on their own and then the results of each analysis should be played out against each other in order to have a compounded result of net environmental effects. This general framework can be used for the analysis of both: the “expected” results from trade negotiations (ex - ante analysis) and for “actual” or empirical impact assessment (ex - post analysis), and it is designed for use as a method to evaluate the environmental impact of any type of trade or investment agreement. In the case of this paper, we are conducting an ex - post analysis of NAFTA - related tourism development and its environmental impacts in the Mexican portion of the Mesoamerican Reef.

3. Methodology

In this paper, we analyze the relationships between NAFTA, foreign investment, tourism development and environmental impacts. Tourism development will be described as the (i) increase in number of hotel rooms in the area and the urban development that is associated with this, (ii) number of foreign visitors that spend their holidays in the area, (iii) contribution to the National Gross Product and (iv) population living in the area. The NAFTA contribution to tourism development will be assessed first through: (i) a description of the structural changes implemented by Mexico as a result of NAFTA, (ii) the trade balance and the tourism-related Foreign Direct Investment (FDI). Finally, the environmental implications resulting from tourism development will be assessed through the existence and application of environmental policy tools. The assumed relationships amongst the different elements will be analyzed using the previously described OCDE framework.

4. Discussion and Results

Tourism development in the Mexican portion of the Mesoamerican Reef

Cancun’s construction began in 1970 with a program by FONATUR, which considered a Plan made out of two sections. The first one, located in Cancun’s island was characterized by beautiful scenic views and white-sand beaches. This area would include luxurious hotels and resorts, golf courses and areas intended for nautical-related residential development. The

second section was designed for the town's center population of Cancun, originally planned for a population of about 20,000 residents.

Since 1990, the development of mega-projects began with the construction of hotels, marinas, golf and polo courses, residential areas with private piers and shopping malls. National policies intending to promote Cancun resulted in it becoming the most visited destination in México by the end of the 1990's. This triggered the development of the area called the Mayan Riviera which extends along the shore 130km from Puerto Morelos to Point Allen down south. Now, the Mayan Riviera has approximately 23 thousand rooms with a predicted growth during the next 10 years (see Table 1).

Table 1. Hotel Rooms Inventory in Quintana Roo (2006-2008)

| DESTINATION | Rooms | | | Hotels | | |
|-----------------------------|--------|--------|--------|--------|------|------|
| | 2006 | 2007 | 2008 | 2006 | 2007 | 2008 |
| Holbox | 290 | 312 | 312 | 27 | 27 | 27 |
| Isla Mujeres | 1,028 | 1,043 | 1,043 | 48 | 48 | 48 |
| Cancún | 24,159 | 27,617 | 28,218 | 138 | 147 | 148 |
| Puerto Morelos | 2,576 | 2,585 | 2,585 | 21 | 22 | 22 |
| Riviera Maya ** | 30,787 | 34,765 | 34,765 | 331 | 336 | 336 |
| Cozumel | 4,167 | 4,373 | 4,373 | 52 | 51 | 51 |
| Carrillo Puerto (Zona Maya) | 97 | 97 | 97 | 4 | 4 | 4 |
| Gran Costa Maya *** | 387 | 387 | 387 | 50 | 50 | 50 |
| Chetumal | 1,580 | 1,746 | 1,746 | 52 | 62 | 62 |
| José María Morelos | 54 | 54 | 54 | 5 | 5 | 5 |
| Kohunlich | 40 | 40 | 40 | 1 | 1 | 1 |
| Otros **** | 88 | 89 | 89 | 10 | 10 | 10 |
| TOTAL Q.Roo | 65,253 | 73,108 | 73,709 | 739 | 763 | 764 |

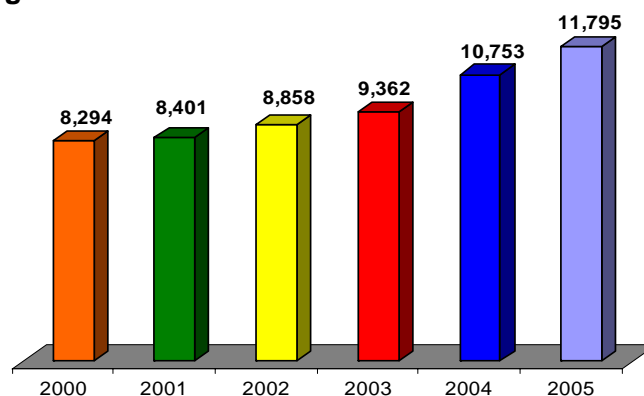
At present, the tourism influx growth is the fastest growing in the country, with an annual growth of 19.4% per year compared to the world average of 7.5%. Also, the urban population is growing exponentially demanding a wide variety of different services such as: stores, schools, clinics and hospitals, recreation sites and sports areas, as well as urban offices of public administration services in addition to the already lacking general services such as domestic garbage collection, security and public transport.

Table 2. Total population of Cancún

| Year | Total population | Men | Women |
|------|------------------|---------|---------|
| 1980 | 33,273 | 17,074 | 16,199 |
| 1990 | 167,730 | 87,152 | 80,578 |
| 1995 | 297,183 | 152,833 | 144,35 |
| 2000 | 397,191 | 203,471 | 193,720 |
| 2005 | 526,701 | 265,547 | 261,154 |

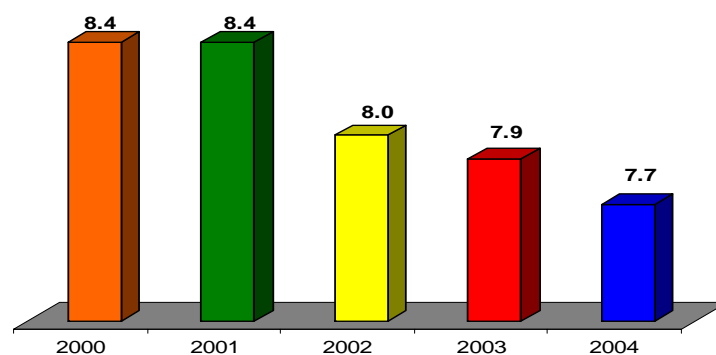
Source: INEGI

Tourism growth has been leading the increasing tourism-related revenue at an average yearly rate of 5.4 % as shown in figure 1.

Figure 1. Growth in the tourism revenues in Mexico

Source: Cuenta Satelite de Turismo

However, the contribution of the tourism revenues to the Gross Domestic Product (GDP) has been declining in the last years as shown in figure 2.

Figure 2. Contribution (as percentage) of tourism revenues to the GDP

Source: Cuenta Satelite de Turismo

NAFTA, Environmental Regulation and Tourism Development in Mexico

As part of the trade agreement signed by the governments of Canada, USA and Mexico, an environmental commission was created with the duty to promote the creation of environmental stewardship instruments and oversee their application by the different signatories:

“Recognizing the right of each Party to establish its own levels of domestic environmental protection and environmental development policies and priorities, and to adopt or modify accordingly its environmental laws and regulations, each Party shall ensure that its laws and regulations provide for high levels of environmental protection and shall strive to continue to improve those laws and regulations”.

In the case of Mexico, as a result of NAFTA and the establishment of the CEC, several changes on the Mexican legal framework were created intended to promote trade and investment, jointly with environmental conservation.

These changes include reforms to the Mexican Constitution - such as reforms to article 27, which was supposed to promote investment and reduce common property resources governance problems. Also, new laws were created such as: the Competitiveness Law – “Ley Federal de Competencia” that regulates the role of suppliers and demanders as well as several reforms to the Foreign Investment Law described in the following section. Regarding environmental agreements and environmental policy instruments, Mexico signed the Biodiversity Convention, fuelled partly by NAFTA and made reforms to the General Equilibrium Law for the Environment – “Ley General de Equilibrio Ecológico y Protección al Ambiente” (LEEGEPA).

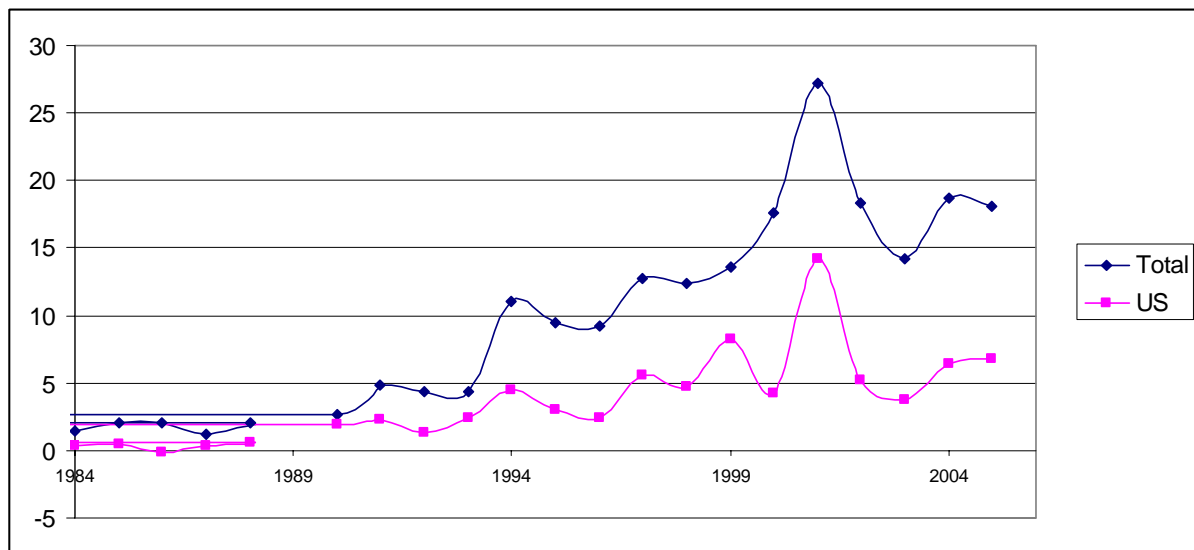
At present, the most controversial element of the environmental framework and the one with the most direct and over-arching implications for environmental protection and tourism is the special protection that mangroves obtain from article 60 of the General Wildlife Law – “Ley General de Vida Silvestre” (LGVS) reformed in 2007. It is speculated that at least one billion dollar of tourism-related investment from several tourism-related projects in Mexico in the coastal zone are in standby as a result of this law. However, up to present, the most important environmental policy tools relating to tourism regulation are those included in LEGGEPA. Specifically, Land Use Plans (OET), Protected Areas and their respective

Management Plans and, Environmental Impact Assessments (EIA). These are thus, the policy tools which we will analyze in this paper.

NAFTA, Foreign Investment and Tourism Development

As can be seen in the table below, NAFTA has had a major impact on the flow of Foreign Direct Investment (FDI) into Mexico. NAFTA commenced on January 1st, 1994.

Figure 3: FDI flows into Mexico (billion USD) from the period 1984-2005



Though NAFTA is as much an investment agreement as it is a trade agreement, the sectors upon which NAFTA - related Foreign Direct Investment (FDI) flows have been pouring to Mexico have been mainly directed toward the manufacturing sector. For example, for the period between 1994 and 1998, the percentage of FDI going into manufacturing was roughly 60%. Moreover, in the period between 1989 and 1993, just before NAFTA entered into force, the FDI flows directed towards the manufacturing sector were, on average, 24% of all FDI flows and “communal services” (the sector on which the tourism sector was accounted within), amounted to almost 17%. Although NAFTA - led FDI flows are considerably larger than previous FDI flows, there appears to be a downward trend in the relative importance that the services sector has as recipient of FDI at least in the recent NAFTA years. Manufacturing has taken up almost all FDI generated by the new conditions for investment flow.

Having said this, there still appears to be an important inflow of NAFTA-led FDI into the region that is the object of this paper. A smaller share of a bigger pie may be a larger piece than a larger share of a smaller pie. That seems to be the case for FDI flows into the tourist

sector. Furthermore, FDI inflows into the Quintana Roo state of Mexico, on which the entire Mexican portion of the Mesoamerican Reef system lies, are as follows:

Table 3. FDI inflows into Quintana Roo 1994 - 1998. USD Million

| Year | 94 | 95 | 96 | 97 | 98 | 99 |
|--------------|----|----|----|----|----|----|
| Quintana Roo | 39 | 18 | 15 | 60 | 16 | 3 |

Source: Secretaría de Economía. Dirección General de Inversión Extranjera

Of which 0% is directed towards the manufacturing sector. Furthermore, we have the following FDI inflows:

Table 4. FDI inflows into Quintana Roo from North America and the European Union, 1999-2000. USD Million

| Countries | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 |
|-------------------|------|-------|------|-------|------|------|------|------|-------|
| 4 Germany | .3 | .3 | .3 | .2 | .5 | .3 | .6 | .3 | .3 |
| 36 Canada | .6 | 1.1 | 2.1 | 1.6 | 1.5 | 2.0 | 1.9 | 5.6 | 6.9 |
| 57 Spain | 54.3 | .2 | 37.0 | -1.2 | 13.1 | 17.0 | 38.4 | 2.2 | 5.1 |
| 58 United States | 15.8 | 101.3 | 8.0 | 11.4 | 17.1 | 33.6 | 57.4 | 47.0 | 54.8 |
| 63 France | .1 | .2 | .3 | .2 | -2.4 | .6 | .9 | 1.3 | 1.1 |
| 79 Holland | 5.1 | 6.4 | 10.0 | -13.2 | 8.3 | .0 | 26.2 | 90.4 | 187.1 |
| 85 United Kingdom | 2.0 | -.3 | 25.7 | 20.7 | .7 | 2.3 | 1.0 | 1.8 | .9 |
| 88 Ireland | .0 | .0 | -4.4 | -7.5 | -4.2 | -2.2 | .1 | .0 | .2 |
| 91 Italy | .7 | .4 | .9 | 1.4 | 3.6 | 1.0 | 1.7 | .6 | 2.8 |
| 133 Portugal | 2.3 | .0 | .1 | .5 | .1 | .0 | .0 | .0 | .0 |
| Others | .0 | .1 | .9 | .1 | .2 | .0 | .2 | .5 | .8 |

Source: Secretaría de Economía. Dirección General de Inversión Extranjera

Though there may be discrepancies amongst the deflator or parity used in either table, making them less comparable than we would like –there does seem to be a boom in FDI inflows into the region. Some further support to this argument is given through testimonial analysis presented in Section 5.

This boom in FDI inflow towards the services sector includes, amongst others, the tourist

sector. As can be seen in Table 4, although North American FDI inflow is considerable, the largest share of FDI inflow comes from countries within the European Union. This turn of events brings us to the next important question to be asked. There appears to be considerable inflow of FDI into the Mesoamerican Reef region and it has as a target, the tourism sector. Is this mainly from NAFTA-led FDI growth?

This is a key question and one that we have tried to deal with in the most objective way.

Foreign Direct Investment into Mexico has historically been directed towards very specific economic sectors and its flows have been subject to the prevailing political winds governing the Country. Late XIX and early XX century FDI flows were directed mainly to extractive industries like mining and oil. After the Mexican Revolution, the tendency started to evolve into a Nationalist economy and FDI flows were slowly, but inevitably, kept away from strategic sectors as defined in the new industrial policy. This reached a climax just before World War II, when a number of expropriations (notably the oil industry) took place and the role of the State as a major player in the economic sphere was established.

After World War II, FDI flows slowly began to reappear and by 1970, estimates of its participation in the Manufacturing sector fall around 20%. However, until this time, there was no official regulatory instrument to administrate FDI. In 1973, the Mexican Law to promote and regulate foreign investment (Ley para Promover la Inversión Mexicana y Regular la Inversión Extranjera) was created. This law established strict caps for FDI in certain sectors and gave the Federal Government discretionary powers over FDI with the objective of promoting a National Industrial Base.

Yet, it was not until the current Law for Foreign Investment (Ley de Inversión Extranjera) published in 1993 and amended in 1995, 1996, 1998, 1999 and 2001 that finally a regime with clearly defined rights and obligations was established for all types of Foreign Investment. This new piece of legislation established a minimum set of sectors on which FDI is strictly limited and liberalized almost everything else. According to the Ministry of Economy, more than 90% of the economy is liberalized for FDI. Also, the new Law establishes strict arbitration for disputes that gave Foreign Investors confidence for long - term involvement in the Mexican Economy.

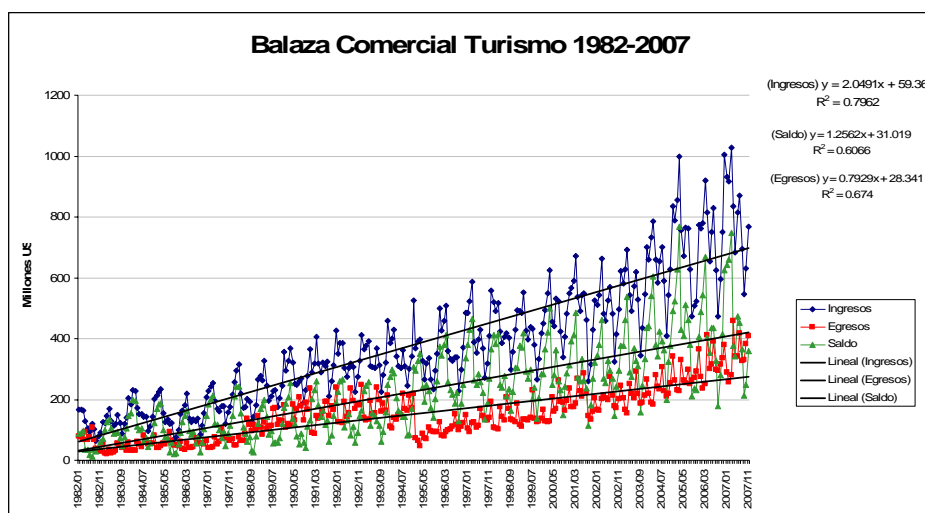
Interestingly, this Law mimics the investment provisions of NAFTA and was published on

December 27, 1993, just four days before NAFTA came into effect. It is widely recognized that the Law, and its 1996 and 1998 reforms reflect the need for Mexico to cope with the investment provisions within NAFTA; that is, more than the Law itself, it is NAFTA which has guided the legislative response to FDI, even within all other Investment Agreements signed by Mexico. Before 1995, Mexico had not engaged in any other Bilateral Investment Treaty (BIT) or the like besides NAFTA. Since then, and within the scope of the Law for Foreign Investment, Mexico has signed more than 25 BIT, many of them with EU members.

So, in terms of the link between NAFTA and FDI inflow into the Mesoamerican Region, as developing formal econometric analysis to support the correlation between NAFTA and FDI was out of the scope of this paper, we hope it has become clear that the Foreign Investment regime after 1994 was strongly influenced by the investment provisions established by NAFTA.

On the other hand, as shown in figure 1, the trend in the last 25 years of the tourism balance shows clearly that first, it is a increasing trend, but it don't seems a significant change as result of NAFTA. Even more, it is modified by other macroeconomic factors, like the devaluation in December 1994 (by decreasing the Mexicans expenditure in international travel) or the decrease in the number of international visitors as results of the 11/09 attacks.

Figure 4. Tourism Trade Balance 1982-2007



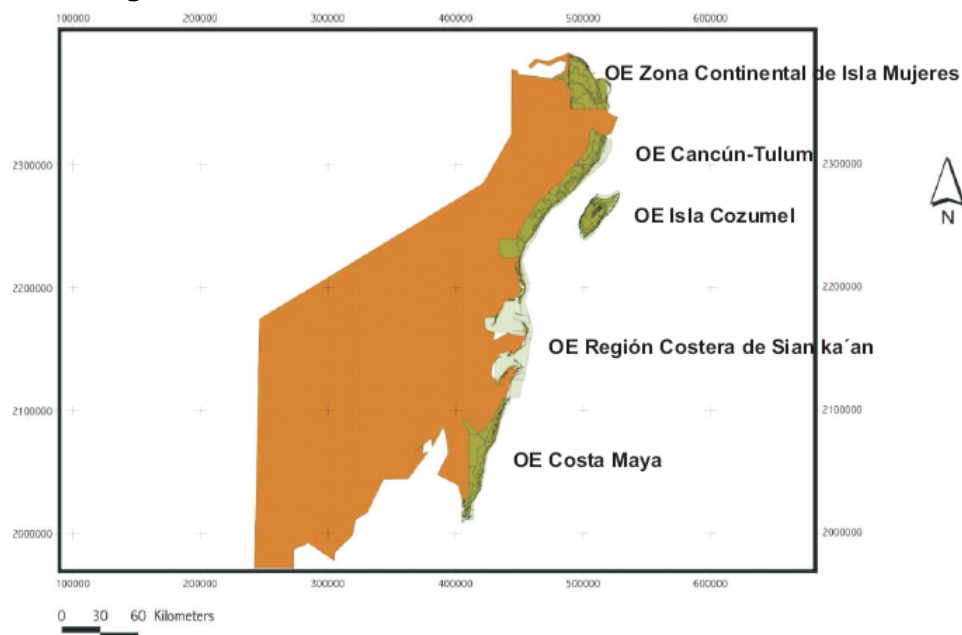
Source: INEGI. Cuenta Satelite turismo

Environmental impacts of tourism development in the Mexican portion of the Mesoamerican Reef

In terms of environmental regulation in Mexico, attributions are vested in the Federal Ministry of Environment –Secretaría del Medio Ambiente, Recursos Naturales y Pesca (SEMARNAT) responsible as well of the protection and restoration of ecosystems. In addition, the National Institute for Ecology -Instituto Nacional de Ecología (INE) a decentralized organ of SEMARNAT has as its main function to generate, integrate and spread scientific knowledge and information regarding the conditions of ecosystems as well as to recommend public policies in support of the protection and/or restoration of species and/or natural systems. Also, with technical “autonomy” but also a decentralized organ supervised by SEMARNAT, the Federal Attorney for Environmental Protection Environment -Procuraduría Federal de Protección al Ambiente (PROFEPA) that has the responsibility of ensuring environmental law compliance. On its part, the National Commission for Protected Areas -Comisión Nacional de Areas Naturales Protegidas (CONANP) is in charge of planning and implementing activities and to insure society participation for the conservation of ecosystems and species within the federal natural protected areas and specific refuge areas.

The main environmental policy tools in Mexico and particularly in Cancún and the Riviera Maya are: Natural Protected Areas, Land-use Planning (called Programa de Ordenamiento Ecológico Local (POEL's or OET) and the Environmental Impact Assessment (EIA).

Regarding land use, there have been six formalized plans (see Figure 5). It is relevant to note that all of the land use plans have been focused on the coastal area of Quintana Roo State, as an expression of the governmental policy to promote tourism development together with an environmental management of the coastal portion. This environmental management is based on distributing different land use intensities by defining portions of territory with specific management policies grouped in four different categories: use, conservation, preservation and restoration. Particularly useful have been the specific regulations on the number of hotel rooms per hectare in some of the POEL's.

Figure 5. The six Land-use Plans in Quintana Roo State

Regarding Protected Areas, Quintana Roo has created 13 federal protected areas. In 2002, a federal mandate enabled some protected areas to obtain benefits from Tourism in Quintana Roo. While the contributions help the park management, these are not enough to cover all the management expenses, and the total contributions do not represent a relevant amount of the expenses of visitors in Quintana Roo state as it is shown in table 2.

Table 4. Total contribution from tourism to Protected Areas in the Yucatan Peninsula (Total amount in USD and relative as percentage of total revenues in Quintana Roo state)

| Year | \$ USD (a) | as % of tourism revenues |
|------|------------|--------------------------|
| | | (b) |
| 2002 | 1,264,098 | 0.037% |
| 2003 | 2,115,498 | 0.056% |
| 2004 | 2,607,596 | 0.063% |
| 2005 | 2,191,022 | 0.058% |
| 2006 | 1,909,234 | 0.048% |

Sources: (a) CONANP (b) Secretaria de turismo del Estado

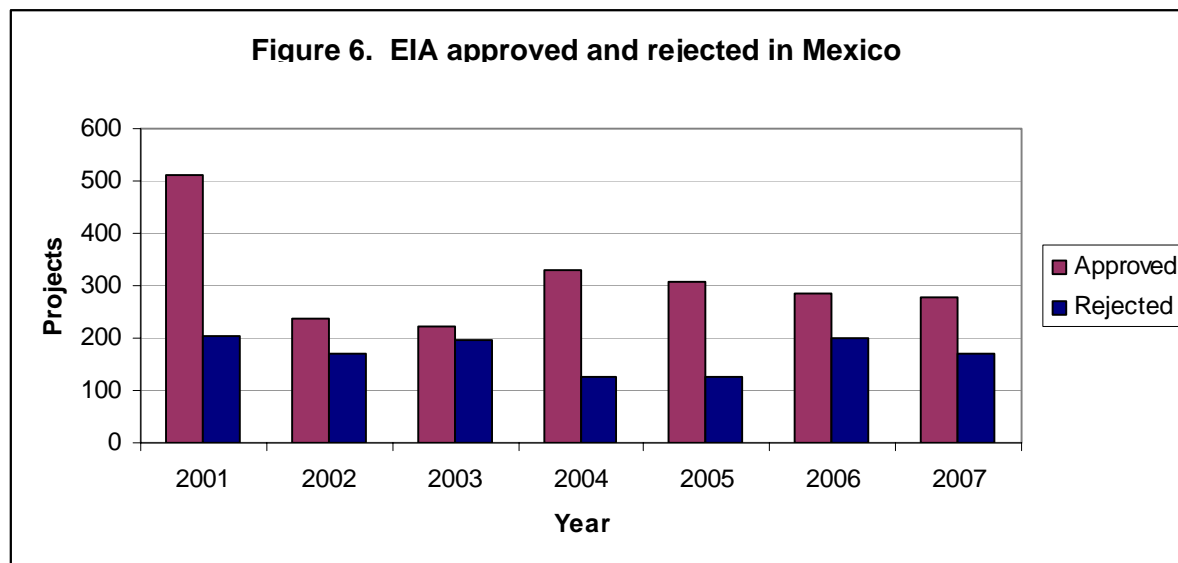
The Environmental Impact Assessment (EIA) tool has been useful to ensure that all the projects in the area meet environmental regulations, but also consider aspects relating to

conservation of sea turtles, coral reef, water and mangroves. The EIA is a ideal tool to prevent potential negative environmental impacts and their mitigation.

The use of EIA's has been fruitful for environmental management in the area. There are at least two experiences worth mentioning where this instrument propitiated a dialog and negotiation between authorities, conservationist and developers was enhanced. The first one is related with the project called Cancun Phase III. After receiving approval of its EIA, environmental organizations challenged it promoting its nullification. As result, developers and conservationist met. Finally, a restriction to the project was added to the resolution which consisted in the declaration of 3,700 hectares of mangroves as protected area. In 2007, FONATUR donated the land to CONANP for the justification studies to be made. In 2008, the new protected area was declared. This resulted in both the project development together with the conservation of the mangroves of Nichupté.

A similar case was that of Las Velas Hotel group at the Riviera Maya, where prior to the submission of the EIA, the developers, and conservationist met to study the project. As result, conservationist organizations provided inputs, comments and suggestions to the project. All of the inputs were included into the new EIA version. When the project was submitted to the authorities, the project was immediately approved. Again the EIA tool provided the space and context for conservation components to be addressed.

However, these, compared to the totality are seldom. In some occasions project information is so deficient that projects are rejected. In other cases, the authority in charge of the EIA (Dirección General de Impacto y Riesgo Ambiental), does not follow the EIA procedures which forces conservationists to launch a legal defense. Finally, there are cases where the resolution of the EIA leads the authority to approve the project with restrictions, to which in many cases developers decide finally to abandon the project.



Source: DGIRA.

Perception Assessment: Testimonies

With varying degrees of pessimism, most of our eleven respondents from Civil Society, Government and the Private Sector seem to recognize that Cancún and the Riviera Maya Region - Mesoamerican Reef Region - observe a point of saturation. This may turn into a rapid trend towards deterioration. However, it is surprising to see that, equally, almost all respondents visualize some hope in this situation if something is done systematically and with promptness. None of the respondents felt that the current strategy for tourism promotion in the region is sustainable; not even representatives from government or the private sector.

Many of the respondents, interestingly enough, seem to be preoccupied by the competitiveness loss in the tourist sector due to the depletion of ecologically conserved spots in the region and the deterioration in beaches and sea quality (such as the proliferation of algae) such as the ineffective and insufficient sanitation infrastructure.

With respect to NAFTA, almost all respondents see that, since 1994, when NAFTA was established, the tourist sector has evolved in a very chaotic manner, with no real planning or overall strategy as in the previous two decades. This has put some stress in the region's ecosystem and therefore can hinder the perspectives for future growth. Some, however, praise the growth in jobs observed after 1994.

Most of the respondents recognize that environmental regulation is better than before; however, almost all feel that implementation of this regulation is still very weak and is the

major problem.

5. Conclusions

Cancun and the Riviera Maya have become the main tourist destinations of Mexico, representing approximately 20% of the existing hotel infrastructure in the country, with luxury hotels, restaurants, bars, golf courses, public and private beaches, malls, nautical clubs, which in addition to its splendid views, have positioned the Mexican Caribbean as a world tourism destination. The quick expansion of the tourism industry has followed the direct infrastructure investments promoted by the federal government fuelled substantially by NAFTA. The implementation of NAFTA has produced an increase in investment towards the tourism sector and in particular, towards the Mesoamerican Reef region of Mexico with mixed but very marginal environmental stewardship improvements. On the one hand, positive results in the creation of policy tools and land-use ordering initiatives can be documented. On the other, despite the goal to promote a planned and ordered development of the area, environmental tools created are not effectively enforced. This weak enforcement has promoted irregular activities and impunity.

In summary:

1. There is a positive relationship between NAFTA, FDI and Tourism Development in the Mexican portion of the MAR;
2. There is a positive relationship between NAFTA and the creation of environmental policy tools in Mexico;
3. The use of existing environmental policy tools have yet to achieve their potential positive environmental implications; given mostly to lack of institutional capacity;
4. In general, the urban tourism-related infrastructure does not respect the structure and functions of the ecosystems of the area;
5. It is possible to identify severe environmental damages in the area attributed to tourism development infrastructure.

There is a need to analyze the past and desired relationship between NAFTA, CEC and regulation enforcement in Mexico.

References

Salvatore, Dominick, 2007. "Economic Effects of NAFTA on Mexico", in Global Economy Journal, Vol 7 Issue 1, 2007.

OECD, 1994. Methodologies for Environmental and Trade Reviews.

Meyer K.D., 1998. Los tratados de libre comercio y el turismo. OEA.

Vázquez Ruiz, M.A. 2004. Elementos para evaluar una década de TLCAN: el caso de México. Geoenseñanza 9: 1 75-84

World Trade Organization. 1998. Tourism Services. Background note by the Secretariat. p2.