

Systems Science Approach to the Design of a Municipal Integration Model

A SYSTEMS SCIENCE APPROACH TO THE DESIGN OF A MUNICIPAL INTEGRATION MODEL FOR SUSTAINABLE TOURIST DEVELOPMENT. CASE: THE ORIENT ZONE OF MEXICO STATE

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ABSTRACT

The new tourist modality generates a tendency toward the values and the importance of the natural environment. It is also consistent with the nature, social and community values, and allows a positive relationship between residents and tourists. This new tourism tendency is regulated through a new development model that is being proposed at a world level: the Sustainable Development Model.

The paper exposes the design process of a Municipal Integration Model for Sustainable Tourist Development, where the possibilities of intervening elements' interrelations are studied to achieve a union among municipalities in order to promote and revitalize the tourist cycle of the region with the use of Systems Paradigm.

The Orient Zone in the State of Mexico is proposed as the study target, due to its resources. However, it is intended that the pattern could be applied in diverse regions of the country that fulfil the necessary elements for its implementation.

Keywords: Systems Paradigm, tourism, sustainable development, municipal integration.

INTRODUCTION

Tourism is a preponderantly economic activity; however, it has evolved with men through its relationships with society. Along the conformation of the tourist activity, it is possible to identify that through the technological advance, tourism adopts a development possibility for the countries; this way the technology used during the Second World War through the deployment of the airplanes for daily use, tourism acquires the way to open new markets. This opening allows the diverse visitors to move to new destinations and as a consequence, to develop the tourist activity.

In Mexico, the development of the tourism is increased with the Port of Acapulco, which begins the development of the massive tourism and the approach of the traditional tourist pattern that mainly consists of vital elements as the sun and the beach. This outline of traditional development remained in the preference of the tourists during several years, however, societies evolve, and new relationships as well as new recreation forms are developed for human beings. The traditionalist approach was no longer enough and is no

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longer fulfilling the visitors' expectations. In order to face this necessity, a new vision of practicing tourism has born an alternate approach to the one that has been already mentioned that is denominated "Alternative tourism".

This new tourist model represented a new development path for the phenomenon, inside which, important world organizations proposed new development forms toward this tendency. Nevertheless, the environmental problem and the social problems that reigned in the world cooperated to the development of this new approach, in which, tourism and the local or municipal administration is preponderant. There are diverse definitions for the alternative tourism, however, a constant aspect presented in all of them, is that the mentioned tourist modality is considerate to outline a closer interrelation with nature, and is preoccupied about the conservation of the natural and social resources of the area in which the tourist activity is held. In order to conceptualize this activity, the following definition it is emitted: The trips that aim to carry out recreational activities in direct contact with nature and the cultural expressions that enwrap them with an attitude and commitment of knowing, respecting, enjoying and participating in the conservation of the natural and cultural resources (SECTUR, 2004).

This new tourist modality generates a tendency toward the values and the importance of the natural environment, it is also a tourism that is consistent with the natural, social and community values, and allows a positive relationship between residents and tourists (Wearing & Neil, 1999 in Newsome, Moore & Dowling, 2002). It is also important to mention that this new tourist tendency is regulated through a new development model that is being proposed at world level; the Sustainable Development Model that is also applied to tourism.

The new development model that we know as Sustainable Development is presented as an alternative to the models that have propitiated the degradation of the environment, starting from the search of creative answers to correct the flaws and to avoid new problems. This concept was transported to the economic activity in the decade of the seventy's and was presented as the reference point of the new positions for economic and social development at the end of the twentieth century (Leff,1990). A series of political, economic and social events occurred all together in 1972 such events determined the contriving of the development strategies in every field. The world crisis began and had energy as one of the more outstanding and unchaining factors. The first report of the Rome Club was published. The First Conference on Human Environment took place at Stockholm, and in Paris an agreement promoted by the UNESCO about Cultural and Natural World Patrimony was signed. In Europe the Economic European Community started the first program of action on the environment (Ceballos-Lascuráin, 1998).

All these meetings were focused on the pattern of economic development model and the diverse problems that capitalism causes as a production way, reason why the sustainable development model emerges as the possible solution to the problem that generates the evolution and capitalist development. In the field of the tourism; meetings, congresses and

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forums were held to debate different aspects of this activity. It is this way that in 1991 the International Association of Scientific Experts of the Tourism (AIEST) described sustainable tourism as the one that maintains a balance among the social, economic and ecological interests (Jimenez,1998). The tourism should integrate the economic and recreational activities to the objective of the natural and cultural values conservation.

Two years later, in 1993 the World Tourism Organization (OMT) defined the concept of sustainable tourism: The sustainable tourist development responds to the necessities of the current tourists and the receptive regions, protecting and enlarging the opportunities for the future (UN, 1993). Sustainable tourism is presented as rector of all the resources so that the economic, social and aesthetic necessities can be satisfied maintaining the cultural integrity of the essential ecological processes as well as the biological diversity and the systems, in defense of the life.

In 1995 at Lanzarote, the First World Conference for the Sustainable Tourism takes place, favored by different institutions as the UN and the OMT. The main achievement of the conference was the Promulgation of the Letter for the Sustainable Tourism whose principles set the bases for a World Tourist Strategy based on the sustainable development (OMT, 1995).

From these principles we can extract a definition of Sustainable Tourist Development: The tourist development will be based on sustainability approaches, that is to say, it must be long term bearable ecologically, economically viable and equal from an ethical and social perspective for the local communities. The sustainable development is a guided process that contemplates a global administration of the resources with the purpose of assuring its durability, allowing the preservation of our natural and cultural resource, including the protected areas. Being the tourism a potent development instrument, it can and should actively participate in the strategy of sustainable development. To be able to achieve a sustainable development or tourist sustainability, strategies should be carried out, considered these as the means by which those long-term objectives are achieved. They are also potential actions that require decisions on behalf of the institutions and corresponding organisms for its realization. In this sense, this paper as a part of a research presents the design of a Model for the tourist development, under the strategy of municipal integration.

Context

The global tendency, considers the tourist phenomenon as a road of economic development, because it is an economic activity that propitiates the economic spill, which generates, the possibility to elevate the life quality level in a country, joined to the increment of foreign currencies that help stabilize its global economy (Thomas & Long, 2001). Nevertheless, this traditional productive activity is a development that depredates

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the environment. An environment friendly model of development, has been world level proposed for several decades now, such model is known as Sustainable Development Model, this sustainability is also transported to the tourist activity, this is how the strategies for the environmental care and preservation are set within a juridical frame mark so that they can be respected, this bears a balanced development, preserving the resources and generating a sustainable perspective for the destinations (Buttler, 1991).

One of the activities of great relevance for Mexico is tourism. After industry, it represents the second place in the generation of employments and income. In Mexico, just like in many other parts of the world, tourism has been deviated because of its operation and commercialization, losing sight of its true mission that corresponds to offer the experience of knowing new culture forms and natural life. On the other hand, a tourist complex based on the sale of a comforts infrastructure has been settled down and displaced the local communities, causing adverse environmental and social impacts. Associated to the environmental and socio-cultural dismantle, such a conception of tourism doesn't usually irradiate economic benefits to the local population, except for its participation in poorly remunerated employments and in the sale of some low quality manufactured products. A typical example is the Acapulco Diamond Tourist Complex.

Nowadays, Mexican society in some sectors reflects about the lack of programs and projects of specialized tourism in our country, such reflections come from some experiences of alternative tourism that nations like Spain, Costa Rica, Belize, Guatemala and Rwanda, among others, have taken advantage of, reaching important income of foreign currencies and developing sustainability characteristics. The National Plan of development 2001-2006, sets tourism among its national priorities, and recognizes it as a very important productive activity; therefore, it channels the impulse, through the National Program of Tourism (SECTUR, 2001). This Program is structured in such a way that manages 4 rector axles, where tourist municipal development is inserted.

In Mexico "Agenda 21" program has also been created, as a program that proposes strategies and actions in the short, medium and long term, with the purpose of strengthening the dynamics of the tourist regions; to include the local communities in the generated economic activities and to assure the preservation of the natural and cultural resources of the tourist destinations of Mexico.

On the document Politics and National Strategy for the Sustainable Tourist Development, presented in year 2000 for Mexican Tourism, Agenda 21 is the continuation of the reference frame mark proposed in a combined way by the participant agents of the sector and the Tourism Ministry Office of Mexico (SECTUR). The above long term strategic planning is incorporated as a tool for the design and conduction of local programs to strengthen tourism in states and municipalities; however, in the short term, it maintains a practical focus in order to establish the actions required for their application in the municipalities and tourist destinations (SECTUR, 2000).

The municipality has a protagonist role in the installation of the program and in the

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application of the Agenda 21 for Mexican Tourism. In this context, the municipality works as a strategic promoter to assist the local environmental challenges, also as the great leader of the change and connection processes among the groups that interact in the local processes of economic, social and cultural development.

Justification

The tourist Municipalities can perform the role of leaders in the local and regional tourist area, which would allow a population's sector to obtain benefit from the same economic spill that the tourist phenomenon causes. The proposal aims to the competitiveness and tourist development, since, as long as a place has competitiveness in the tourist market, its development is possible.

The competitiveness of the tourist destinations depends on the capacity of its industry to innovate and to permanently improve the quality of its product (Porter, 1991), this indicates the need to generate new outlines that allow regions of the country to be positioned in the tourist market, the improvement of a destination's competitiveness should also be considered from a local point of view, before developing national policies.

Considering the current scenarios of tourism in the country, the generation of development outlines where the elements and tourist resources are integrated for a harmonic development is indispensable. It is considerate that the local development is the pillar of the national development, and this is emphasized in the necessity of promoting a structure that determines the way toward the tourist competitiveness. Therefore, it is intended to design a Systemic Model of Municipal Tourist Integration that strategically promotes and develops the outlines for the growth of the tourist activity in the orient zone of State of Mexico.

METHODOLOGY

The system's paradigm was used to perform the research. This approach is very appropriate for the tourism research since we deal with dynamic structures or systems that are not composed of homogeneous elements but of heterogeneous elements and its identity is determined by its position or by the function that they carry out in the structure or total system; therefore, in this kind of research we require concepts and instruments appropriate to their own nature.

The system's paradigm assumes the possibility to reach a dialectical synthesis between quantitative and qualitative methods, considering them not opposed but complementary (Martínez, 1997). Stands for the necessity to not be limited to explain and to understand the phenomenon, but rather it also introduces changes guided to improve the system. It centers its objective in the application of the knowledge to transform reality (Tejeida, 2002).

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Inside the systems paradigm there are several models and methodologies, such is the case of the Soft Systems Methodology (SSM) that is the one used in this study. The soft systems methodology can be described in a summarized way, as a flexible process of seven analysis stages that use the concept of human activity system as a mean of getting so much to investigate the situation as performing actions to improve it (Checkland & Scholes, 1990).

DEVELOPMENT

The opportunity for the municipalities to become able to negotiate and to plan their own development, started in 1982 when the article 115 of the Federal Constitution of Mexico, was modified, allowing the Municipalities the ability to promote, to negotiate and to plan their own development, however in the tourist area there are no projects that impel jointly a group of municipalities territorially near, for the development of their tourist capacities. Considering this problematic and with SSM the model was developed.

Description of the Non Structured Problem

In this stage, the situation of the problem is experienced in first place by the researcher. That is to say, the researcher's experience on the nature of the situation is necessary as much as possible.

Based on the documental information analyzed in this research, and on the experiences about the development conditions in Tourist Municipalities, we can establish a first vision on the elements that intervene for the municipal tourist development model conformation (see figure 1). This Tourist System of Municipal Integration is inside a supra-system including the general aspects that influence its formation and development.

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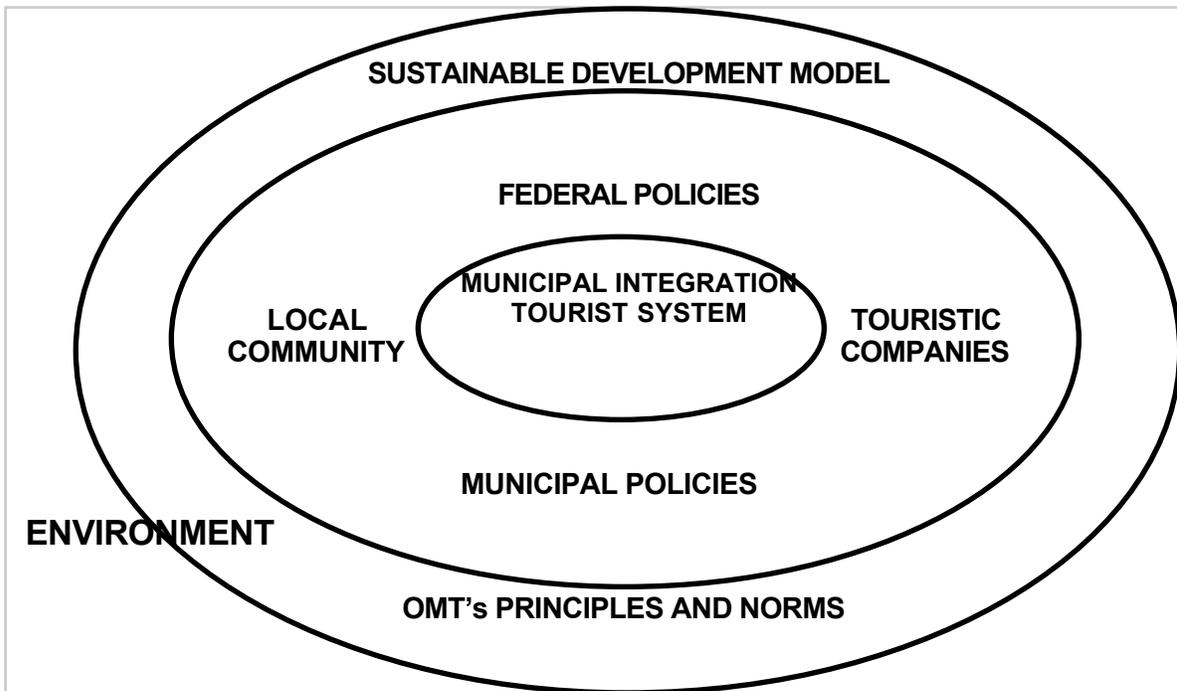


Fig. 1. Definition of the System

One of the systems that directly relate is the federal policies one, since in essence such policies are those that would allow this development model to be promoted in a region, determining the importance of the policies in the economic, ecological, tourist areas and social development. Another system that is intimately related is the one of the municipal policies that just like the federal ones, are necessary for the implementation of strategies for the development of the tourist activity.

The companies of the tourist sector are elementary in this proposal, since the proper system working depends on their service's efficiency and quality. In addition, the most important sector is the local community, given its approval, through the acceptance and the integration of the local communities to the tourist activity as a part of the economic sector; we will be able to speak of a holistic and integral development.

Finally, the environment where this model is developed implies the necessity to consider the economic development model, and the global tourist sustainability, reason way the diverse world dependences or international organisms that carry out deep studies of tourist development framed in sustainability were indispensable for the development of this research.

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Interpretations

In connection with the previously exposed, it is possible to observe that the main model of planning for the internationally accepted development of tourist municipalities is the Sustainable Development that international organisms such as the WTO and the UNESCO propose as the most suitable road for the municipal tourist development.

The Sustainable Development Model is the main planning mechanism that implies the development of tourist municipalities, however this is the atmosphere in which this system develops, the mainly involved characters are the municipalities, in their autonomy of implementing a program of municipal tourist development.

The Tourist Municipalities, through their policies and municipal regulations and specifically in their development plans, can impel programs of tourist development, which are concerted in the National Plan of Development 2001 - 2006 and in the Agenda 21 for the Mexican Tourism 2001 - 2006.

The participation of the private sector, that is to say, the local companies, is indispensable to strengthen the tourist activity and has a direct relationship for this development model. The local community as well represents an important sector.

With the purpose of obtaining useful information for the methodological development, an instrument was designed; such instrument helped gather the necessary information about the possibility of generating an outline of tourist development in municipalities through the correlation of the systems, and about the positive and negative aspects potentially generated if an outline of municipal tourist development is proposed.

Many outlines of tourist development have been designed in Mexico, and some have worked satisfactorily. For instance The Mayan Route, Heart of Mexico, and Route of Cortés; however, the reality of recreation options is surpassed. The tourist offer planned in tourist developments, and they get more demand, on the other hand, there are small local regions that can cover the local population's necessities and neighbouring communities, these can as well satisfy the recreation necessities of the country in general.

There are many local projects, but they are not linked, and they are not part of a group of tourist offer, such situation displaces them competitively in the tourist market. Most of the population has low resources, therefore local destinations, strategically located, are proposed and they can be the solution to capture these markets and to cover those necessities.

Situation of the Non Expressed Problem

For this stage, a detailed description was developed, an enriched vision where the logical and cultural focuses of the situation are both spilled, inside which the problem happens.

The purpose is to obtain the possible relevant systems. In order to accomplish this, the rescued symptoms or anomalies of the non-structured problematic situation are grouped,

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with the objective of relating them to a general problem that is supposed to be the cause of all those anomalies in the system.

Root Definition of the Relevant Systems

A relevant system is the one that the researcher names as a candidate to generate discernment in further stages of the study. For each relevant system, a definition root is formulated, and a conceptual model is built.

For this logical analysis, the memory technique CATWOE is proposed as a confirmation list to make sure that the important characteristics of the root definitions are included.

C = Client. The clients are the users, those that obtain benefit with the system, in our case they are specifically the following:

1. Tourists or Tourist Market
2. Private Sector, Local Companies
3. Hosting Community
4. Local Population

A = Agents or actors, who will be in charge of the information entrances transformation in to exits:

1. Municipal Authorities
2. Public Officials, DDE
3. Federal Government, SECTUR
4. Hosting Community, Local Companies

T = Transformation. It is the entrance conversion in to exit, that is to say, the exit will be the Municipal Integration Model for the Tourist Development (see figure 2.).

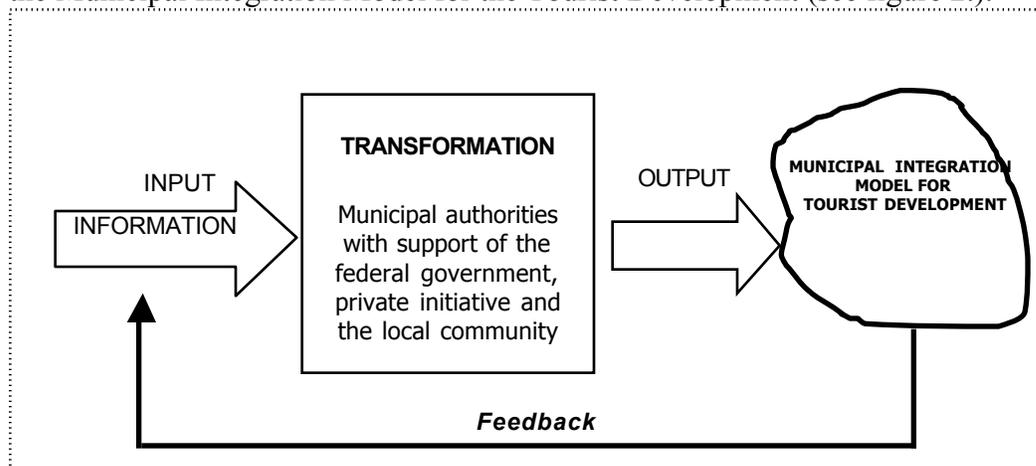


Fig. 2. Transformation

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W = It is the relevant world of the Weltanschauung that is to say the vision of those involved. The visions coincide with the interpretations of the first part and we can summarize them in table 1:

Table 1. Synthesis of the vision of those involved

Involved actors	Positive vision	Negative vision
Municipal Authorities	<p>Promote the tourist image of the Municipalities.</p> <p>Inter-municipal work whose benefit is regional.</p> <p>Display information about the municipalities as tourist sites.</p> <p>To generate revenues on Tourism's account.</p>	<p>The lack of a planning outline for tourist development.</p> <p>The lack of specialized personnel.</p> <p>A necessary investment for infrastructure and the creation of new local medium and small companies.</p> <p>Lack of trust to integrate a group of promoted municipalities and to be tourist developed.</p>
Hosting Community and Local Private Investment	<p>Greater development opportunities.</p> <p>Creation and organization of</p>	<p>The rejection to tourists.</p> <p>Degradation of the natural and cultural environment.</p>

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	<p>new companies</p> <p>Benefit of the economic spill because of tourism.</p> <p>Generation of new employment sources.</p> <p>Contact with other cultures.</p>	<p>Contamination of the natural and cultural places.</p> <p>Maximum occupation only in seasons (High, Low, or weekend).</p>
<p>Federal government (Programs of Development, Local Tourist Market).</p>	<p>To increase areas of tourist development at national level.</p> <p>To offer and to diversify the regional tourist demand.</p> <p>To promote the tourist development in non high-priority areas.</p>	<p>Application of economic resources for the support of development programs.</p> <p>Support for the personnel training of Tourist Municipalities.</p> <p>Lack of control through the State Offices of Tourism.</p>

O = The owner, the decision makers whom in this case are the municipal authorities, with support of the Federal Government, through their dependences, such as SECTUR, and the State Program of Tourist Development.

E = Environment. The environment remains defined in the first stage of the methodology:

- SECTUR and the National Program of Tourism (PNT) 2001 - 2006 and the Agenda 21 for Mexican Tourism 2001 - 2006.
- The Federal Government and the National Plan of Development 2001 - 2006.
- The State Administration of Tourism and their tourist programs.
- The Municipal Governments and their Development Plans.

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- The Areas of Tourist Development.
- The Experiences of Tourist Development in other countries
- The strategies of Tourist Development and the resources.

A root definition expresses the nuclear purpose of an activity system with a defined purpose. Such nuclear purpose is always expressed as a transformation process in which some entity, the "entrance", changes, or transforms in to a new form of the same entity, the "exit".

Conceptual Model

The Soft Systems Methodology suggests the elaboration of a conceptual diagram of the studied system, where the interrelations of the different elements of the system and its exchange of information with the environment are shown. The following systems were found in this study:

A Human Administrative System that is integrated by a subsystem of tourist planning, another subsystem called Administration of Economic Development and an Inter-municipal Tourist Committee.

A Technical System, where the training thematic is approached for the development of the municipal tourist integration model.

Finally the Strategic Administration System, that has the primordial function of the coordination and interrelation of the previously exposed systems and the monitoring and feedback with the environment; in such a way that the correct operation propitiates the economic spill and the regional and local development as a consequence of the tourist activity in the region.

The environment where the proposal is developed, and that directly and indirectly impacts the whole system.

The Conceptual Model of the Municipal Tourist Integration System is presented in figure 3.

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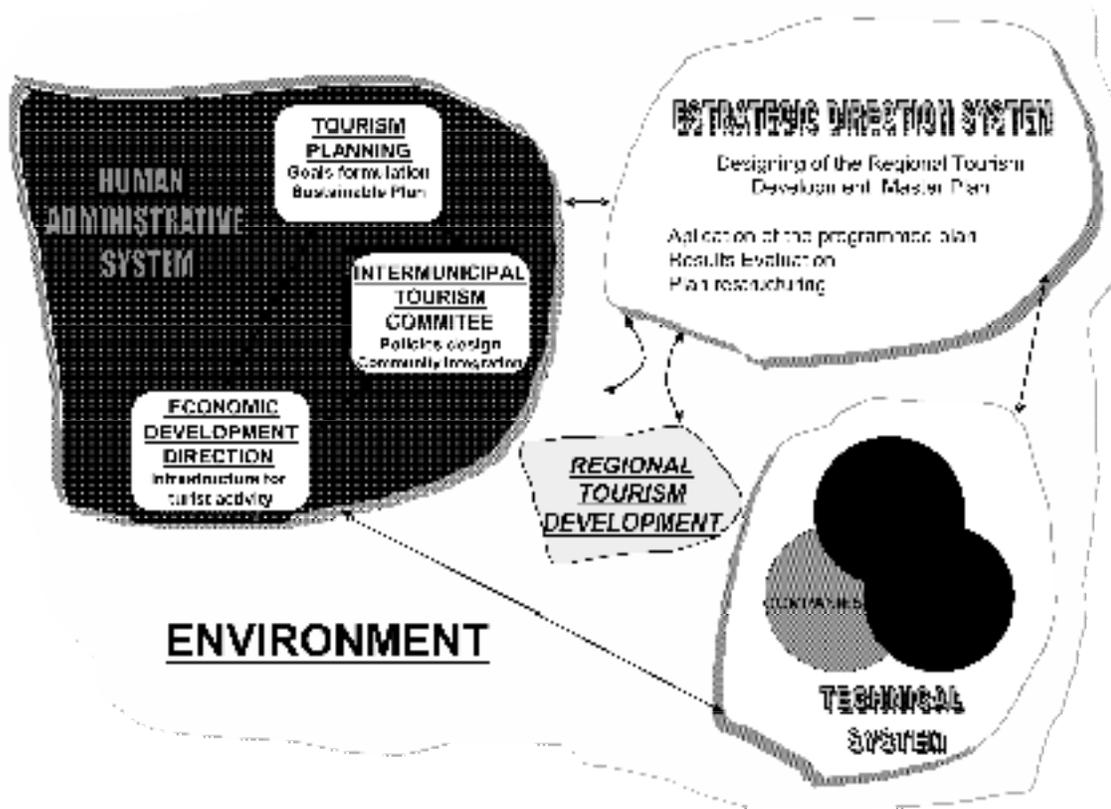


Fig.3 Conceptual Model of the Municipal Tourist Integration System

Comparison of the real world, with the consideration of systems of the real world

The AHP (Analytic Hierarchy Process) was used in order to contrast the conceptual model with reality. This method consists on formalizing the intuitive understanding of complex problems by means of a hierarchical model formulation. The AHP tries to untangle a problem and then to unite all the solutions of the sub problems in a conclusion (Saaty, 1998).

The purpose of using this method was to allow to structure a multi-criterion situation in a visual form, by means of a hierarchical model construction constituted by three levels: the first one represented by the regional tourist development relevant system; the second level, by the administrative human system, the technical system, the strategic management system and the environment; the third level constituted by the relevant systems' dimensions along with their corresponding alternatives. This way the goals or objectives as well as the criterion and alternatives were set. In order to perform the analysis, a team of experts was integrated by two groups. The first one integrated by

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academics specialized in tourist research and in local and municipal development issues and the second group integrated by municipal authorities.

The process allowed, organizing the information regarding the model, to decompose it and to mathematically analyze it by parts; to visualize the effects of changes in the levels and to synthesize.

Definition of the feasible changes and actions to improve the situation

Tourism is an eminently location related activity, that is based in the existence of natural and cultural tourist resources in a certain geographical space (Callizo,1991). This conceptualization is the one that should be considered to detonate the local tourist activity.

The participation of the municipal city councils in the tourist activity in Mexico is incipient. Therefore, the tourist activity doesn't have a great development in the local economies, since it doesn't represent an economic activity as such. However the new tendencies, and according to the manifested plans of tourist development, in the official documents (SECTUR, 2001), the intention is to integrate the tourist activity to the municipalities, and as a consequence to diversify the tourist offer.

To achieve a tourism based development in the local economies, is necessary to recognize the importance of the tourist activity and this requires the participation of the different involved sectors, that is to say that they all work together for the achievement of the goals. The federal government through its dependences, should strengthen and provide the communities as well as the municipal city councils with tools, and should also dedicate public financing for the local tourism. This process is necessary, so that the local tourist destinations can be a tourist alternative, however the installation of the model would be a gradual process, from the exchange of information among its environment, until the synergy generation among the systems.

The federal, local and state government should join efforts to dedicate resources, and to motivate the creation and development of new local tourist projects. The local government is responsible for its geographical demarcation; reason why in union with other local governments can gather elements to detonate the tourism in its towns.

Training is a primordial element in order to provide an efficient service. In tourism, it is essential because the resulting good is a service. Given this complexity, its valuation is qualitative; consequently, an efficient service is indispensable in the tourist destinations. To achieve it, training is required and along with it, facilitators that guide the services' providers to the efficiency. These actions are regularly carried out by the Tourism Ministry office of México, either at federal or state level; it trains the services providers' personnel, by means of the intervention and solicitude of the municipalities. These actions are supplemented with the established regulations in the National Plan of Tourism of México (2001-2006) in the sections regarding to competitive companies.

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CONCLUSIONS

The role of the municipalities in the tourist activity is essential, since these through the aldermanship should carry the leadership of the tourist development, by means of a plan elaborated with proposals of each one of the actors involved in the municipal tourism, as well as representatives of other productive sectors, with the desire of integrating them to the economic development through tourism. However, participation and the federal government's support is necessary to impel the local tourism in countries in development like Mexico where the public financing for the rural development is still promoter of economic processes.

The Economic Development Directions in the municipal city councils, should consider the joint work, to define new plans of tourist development and to integrate them to their municipal development plan. These actions will allow a better outline of the local tourism. Regularly in the municipalities, the Economic Development Direction is the one in charge of the economic sector, therefore, it is necessary that it involves the tourism as a productive sector, and further on that it generates plans that motivate the growth of the activity in its town.

The model supposes an interaction among the actors, reason why the experts consider the opinion of the local communities as well as their necessities, relevant for the destinations and tourist products planning.

Integrating the municipalities to a tourist development implies a planning process and development execution. The process is complex by virtue of requiring to make coincide political will, participation of the private and social sectors, methodological outline of planning, pertinent execution and application of technical knowledge, everything focused in an endogenous development model that truly benefits the communities. This is a core problem in the reality of the tourist municipalities in the orient zone of State of Mexico, because independent to other factors, the local tourism at the present time, doesn't involve an interrelation among all the participant actors.

The tourist activity should be held according to the current situation of economic globalization (integration and international competition), where the productive systems should be modernized to avoid being left off the market, but the balance between conservation and profitability should be sought. This vision is compatible with the sustainability outline that has been managed in the last years.

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