

Systemic Approach as a tool for Public Policy in Oaxaca and Veracruz Isthmus

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ABSTRACT

Historically, the Tehuantepec Isthmus has been seen as one of the most strategic zones to develop a transoceanic project in Mexico. However, since 1848, all strategic projects had failed even when United States demanded in 1848 its right to build the Isthmus' rail road. Today, the Mexican government continues designing "brand new" strategies to develop the Tehuantepec Isthmus yet still failing. This paper takes a philosophical approach to this problem and uses the systemic approach of science for understanding not only the government's perspective but also the views of indigenous people of the Tehuantepec Isthmus. The ultimate goal of this paper is to make some recommendations to the government in order to design public policies for the development of this area.

Key words: Scientific approach, Systemic approach, Public Policy for development.

INTRODUCTION

The Federal Government is responsible for implementing developmental policies for the country. However, it needs to establish the overall framework that will include the southwest of México to increase its economic and social capital and at the same time find the way to raise the quality of life of indigenous people. Nonetheless, there are many other national and international economic interests that search for investing opportunities; those actors need to be included in the developmental policies because they need to have the certainty and incentives to invest in this zone.

Tehuantepec Isthmus has been since more than 150 years a zone characterized by many inter-oceanic megaprojects, this because Tehuantepec Isthmus represent the main strategic point not just as local economic development but also as international trade opportunity.

In this area has been proposed many projects as highways, manufacturing industry, mega harbors, forest and mining projects, but all of these projects only have represented a limited isolated effort. Mainly because all projects have been seen as unique and not related to any other.

These poor results are consequence from a complex relationship between social, economical and political actors which interact in this zone and in most of the cases are not considered as a group but as single actors.

Given the previous, the traditional way in which the policies and projects are proposed must change for an open, clear, enclosing and social validated system, with the main idea to

understand how some initiative impact in some actors related to others and how these implications could be handled in a better way by political actors in the public policy process.

This document is divided in four sections; first, I will explain the theoretical background of scientific approach, systemic method and public policy. These concepts will help us to understand which one could be better implemented in the case of the Tehuantepec Isthmus.

Second, the research methodology is developed, followed by a brief explanation of the zone under study in terms of economic dynamism, social interaction and political situation.

Finally, in a fourth section we are going to express my conclusions and main opportunities for future research.

THEORETICAL BACKGROUND

Scientific approach

The scientific approach consists in the formulation of questions about world and human reality, through observation of some phenomena and present theories, this approach tries explain and anticipate solutions to these problems and contrast them with the actual reality, this method basically consists in observation, classification and analysis.

Isaac Asimov (1979) explains his ideal scientific approach as following:

1. Identification of the actual problem
2. Division of the problem in essential elements
3. Through observation, get information directly related to the problem
4. Make a simple general information approach through the generation of hypothesis
5. This hypothesis will try to predict possible results from some experiments that are not developed yet. The intention in this point is to verify the hypothesis.
6. If the result of the experiment is correct, then the hypothesis is accepted and now can be considered as theory.

Systemic approach

By other hand, the systemic approach, developed by the biologist Ludwing Von Bertalanffy between 1950 and 1968, do not try to solve a specific problem or even propose a practical solution but it provide theories and conceptual formulations that could create practical conditions in an empirical reality (Bertalanffy, 1968).

The basic assumptions about this theory are:

1. There is a clear tendency to the integration of the natural and social sciences.
2. This integration tries to follow a system theory

3. The system theory could be a wide way to study non-physical fields of the scientific knowledge, especially social science.

4. This system theory develops unified principles that cross vertically particular involved sciences; with this it tries to unify those sciences in a single one.

Scheel (1998), explain that social projects are every day more complex, vulnerable and sensitive to inefficient traditional political decisions. He proposes the systemic thinking expressed by Peter Senge in his book “Fifth Discipline” (1990) as one which could help to find solution in complex context, he divides this in eleven basic laws:

1. Actual problems come from yesterday solutions
2. More oppression over the system, more the reaction from the same system
3. Good behavior could change to bad behavior
4. Easy ways end in the same point
5. The cure could be worse than the disease
6. Faster the effort lowers the results
7. Cause and affect are not necessarily related over space and time
8. Little changes could make big difference
9. Can find the cake and eat it, but not do it at same time

10. There are not isolated mistakes

The general theory of systems affirms that the properties of systems could not be defined in terms of its own separated elements. The comprehension of system only can be understood when it is studied globally, involving all its interdependent parts.

Table 1, scientific vs. systemic

| Scientific | Systemic |
|-------------------------------|--|
| Tries to explain | Tries to understand |
| Tries to anticipate solutions | Tries to provide conceptual formulations |
| Divide the elements | Unify elements |
| Develops hypotheses | Provide theories |

Source: Self elaboration

The main idea of this paper is not to understand which of the previous methods are better or worse but how can any of both benefit the policy making process in a complex context like the Tehuantepec Isthmus, in this part we are going to explain some concept of public policy and how these concepts fit in our goal.

Public Policy

Thomas R. Dye, define public policy as everything what government do, why they do and what differences that make, Harold Lasswell explain public policy as a program that include, objectives, values and practices (Lester and Stewart, 2000, p. 4). Both consider the idea that public policy are actions that emerge from government.

By other and David Easton understand public policy as every impact related to the government activity; Austin Ranney believes that public policy is a particular line of action or intention of act form the government.

James Anderson explains that public policy is an objective action followed by an actor or group of actors related to a particular problem or group of problems. (Lester and Stewart, 2000, p. 4).

Carl J. Friedrich defines public policy as:

“...a proponed course of action of a person, group or government within a given environment providing obstacles and opportunities which the policy was proponed to utilize and overcome in an effort to reach a goal or realize an objective or purpose” (Anderson 2000, p. 4).

The main common points in these definitions are the idea that a public policy is related to the process or actions in which government and not government actors elaborate a series of actions with the main idea to solve a public problem.

At this point we should make a distention between public policy and public policy analysis. Thomas R. Dye defines public policy analysis as the description and explanation about causes and consequences related to de government activity. Dye emphasizes public policy analysis as a prescription instead of explication (Lester and Stewart, 2000, p. 4).

Maybe Garry Starling is more related to systemic approach, he suggests that public policy analysis should be an interdisciplinary effort which facilitates the process of policy making. This means giving the tools to decision makers to understand if public policy was

implemented as it was established or not using as many elements as possible. (Lester and Stewart, 2000, p. 4).

METODOLOGIC FRAMEWORK

This research was developed in four main phases:

1. Historical approach, it consists in revision of projects and studies made previously in this zone, it made emphasis over infrastructure and other economic policy.

2. Capacity skills, recompilation of statistic information related to economic, social and political capacity, with the aim to compare this zone with the rest of the country and neighbor states, our main source of information was the Mexican national informatics and geography institute (INEGI)ⁱ

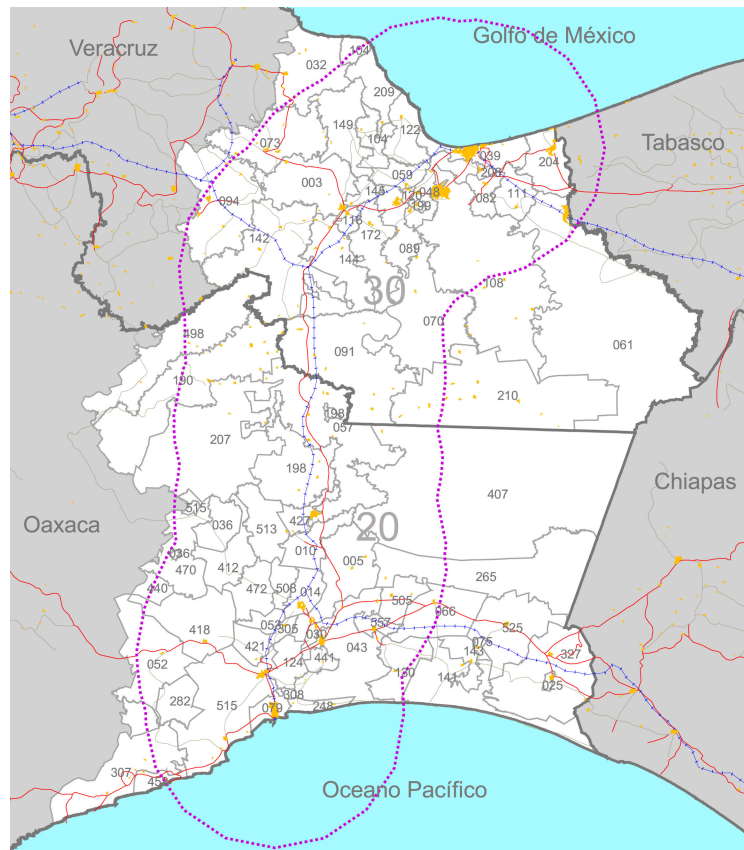
3. Work on field, a group of ten researchers visited the zone and identify social, economical and political actors which were interviewed during two weeks, also four hundred of questionnaires were implemented to the common citizen by a private company in six municipalities in the states of Oaxaca and Veracruz.

Also, four focus groups were implemented, two in each state, divided one to local CO's and the other to civil society groups as NGO's and religious groups.

4. Risk analysis, getting all information we try to relate the historic proposal with the result of them, and also, we try to figure out how future proposal of public policy could be designed to increase the rate of success in it implementation.

5. The zone of research is the place known as Tehuantepec Isthmus, which represent the shorter distance between Pacific Ocean and Atlantic Ocean and for this study include only the states of Oaxaca and Veracruzⁱⁱ as shown in the figure 1.

Figure 1, zone of research



HISTORICAL APPROACH

Base on the study made by Ma. Antonieta Zárate “*Desarrollo del corredor del Istmo de Tehuantepec y su importancia estratégico para el mercado mundial*” (2003), the history of the Tehuantepec Isthmus could be divided in three main periods during the twenty century.

The first one is related to period of President Porfirio Díaz (1876-1911), he proposes the development of transoceanic corridor which main objective was the transportation of international goods between the Pacific and the Atlantic.

During 1878 to 1899 multiple studies were made including this transoceanic project, in 1970 Isthmus rail road was finished, also were the Coatzacoalcos and Salina Cruz harbors.

The phase of economic development experimented in this region was very short; because immediately these projects were finished a period of economical, social and politic crisis begun, and practically any possibility of economic development was canceled.

The second period could be identified during the 30’s when the President Lazaro Cárdenas (1934-1940) integrate this region into the general plan of national development, which intended to establish a regional economic equilibrium. Under this plan some infrastructure projects were rehabilitated and the inter-oceanic oil duct was constructed, this project represented the main energetic source to the Mexican Pacific coast.

In 1972 President Luis Echeverría create the Coordinator Commission for the Tehuantepec Isthmus Integrate Development (CIT), this commission was integrated by ministers of national patrimony, industry and commerce, agriculture, public services, public education, federal commission of electricity, national railroad, national commission of harbors and the commission for agriculture and presidency reform.

Between 1974 and 1975 a private company (ICATEC, S.A.) elaborated a study with the main objective to identify development projects; it was constituted for five main master plans. But until 1972 the project Alfa-Omega was presented based on the studies developed by the CIT.

By 1981 President López Portillo formed the multimodal trans-isthmus service. This project was suddenly interrupted because the 1980 economic crisis and reactivated in 1985 with the idea of construction of a transoceanic channel in the Isthmus based on a proposal made in 1964 for José Noriega.

Facing a process of globalization, the NAFTA and the Pacific group consolidation, in 1996 the firm Felipe Ochoa and Associated a consult group, presented a new project “The Master consulting for the integrate development program at Tehuantepec Isthmus”, known as “Ochoa and associated megaproject”.

This new proposal contrast dramatically with the previous economic policies promoted during sixties, seventies and eighties.

It makes specific emphasis in the geographical advantages and to be useful in the process of economic development through the construction of a multisystem harbor and the use of the natural resources of the region (oil, minerals and water).

Recently in June 2006ⁱⁱⁱ President Fox testified the signature of the agreement of actions which through private investment will try to develop Tehuantepec Isthmus and his area of influence in the south - southeast of Mexico.

This new project had the incentive to make stronger the commerce trade between Asia, México and United States and was considered part to the wealthy alliance for North American countries, Puebla Panama Plan and the Mesoamerican energy plan.

Here just infrastructure projects were presented, but many other kind projects exist for this area, especially those related to the social customs, human's rights and Ethnic perspectives^{iv}, but all of them were made as a single project no one is connected or part to any other study or project.

THE ISTHMUS TODAY

Economic approach

Table 2, show some indicator related to de economic growth by region and Isthmus.

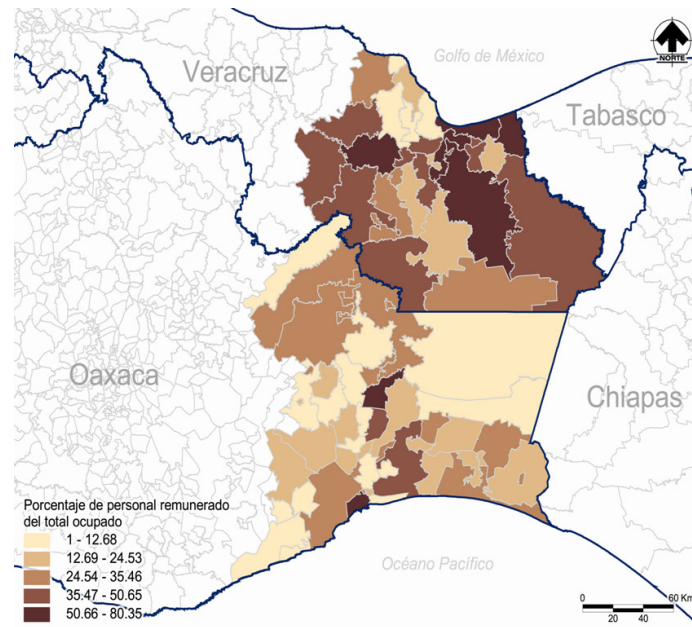
Table 2, average economic growth, 1998- 2003

| Region | Total production | Total aggregated value |
|---------------------|---------------------|---------------------------|
| National | 1.4 | 4.3 |
| Oaxaca | 7.2 | 12.5 |
| Oaxaca Isthmus | 11.3 | 27.9 |
| Veracruz | 2.8 | 3.9 |
| Veracruz Isthmus | 2.1 | 3.1 |
| Isthmus zone | 5 | 9.8 |

Source: INEGI. Economic census 2004.

As we can see this economic information gives us some idea about the economic behavior in this region, the main point here is not the fact that Oaxaca Isthmus is better than Veracruz Isthmus but how different rates of development they have.

Figure 2, revenue by geographical area



Source: economic census 2004.

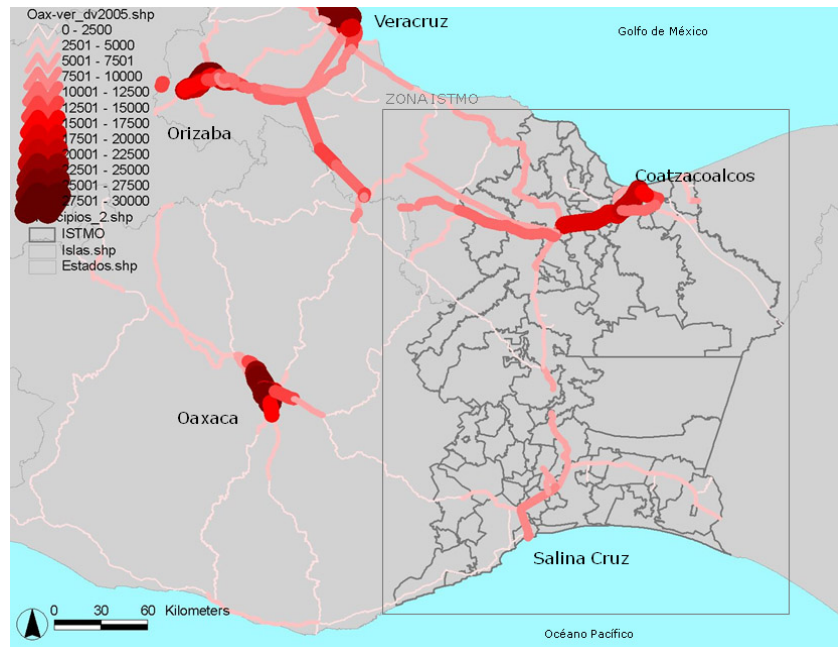
What figure 2 represent is the revenues that population from each side of the Isthmus receive, the clearest area represents the lower amount of people that use to obtain money in a specific period of time, by other hand the darkest area is the highest amount of people that is involved in a formal system of working.

This could be interpreted as the people from Oaxaca Isthmus are self producers, they consume what they produce or trade between their neighbors, the system of trade is not formal as in the case of Veracruz Isthmus, where people are rolled in a formal system of production for a specific amount of money, they work eight hours a day and receive a payment for that.

Also, the trade and communication between both areas are very poor, in the figure 3 we can see the density of transportation, and for this zone is almost zero, both interact mainly

with the federal district and the city of Puebla and the trade between them is less than 1%, red lines represent higher density of transportation, pink one lower.

Figure 3, transport density



Source: Communications and transport minister (SCT) 2007.

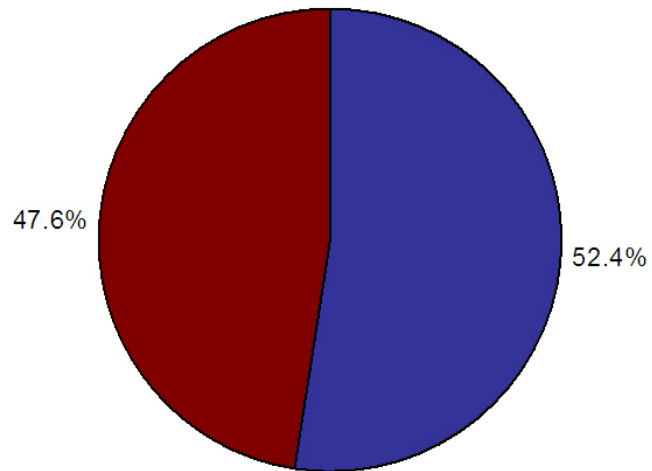
Social approach

The social structure for this area is completely different too, 52 percent of the Oaxaca Isthmus are indigenous and only 26 percent are represented in the case of Veracruz.

This differentiation could represent a problem in the implementation process, in the case of Oaxaca Isthmus most of its habitants are under a uses and costume traditions, they do not are governed under a constitution law, bur under local and ethnical law.

Graph 1, social structure

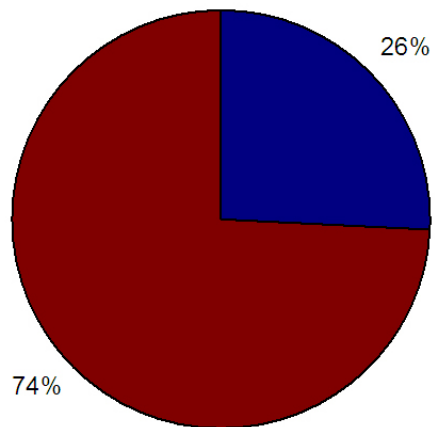
Oaxaca Isthmus



■ Indigenous

■ Non indigenous

Veracruz Isthmus



■ Indigenous

■ Non indigenous

Source: INEGI 2005

Table 3, quality of life

| Region | Income per habitant | Poor of food | Poor of capacities | Poor of patrimony |
|---------------------|-------------------------------------|---------------------|---------------------------|--------------------------|
| Oaxaca Isthmus | \$3,803 USD/year stdv \$2,148 | 34.60% | 44.00% | 67.40% |
| Veracruz Isthmus | \$3,866 USD/year stdv \$1,741 | 33.50% | 42.30% | 65.30% |
| National | \$9,000 USD/year | 18.20% | 24.70% | 47.00% |

Source: INEGI 2005.

| Region | Child mortality (2000) | Literacy (2005) | Scholarship (Years, 2005) | |
|-------------------|-------------------------------|------------------------|----------------------------------|---------------|
| | | | Male | Female |
| Oaxaca Isthmus | 29.5 p/1000 | 78.8 % | 6 .40 | 5. 40 |
| Veracruz | 30 p/1000 | 82.0 % | 6 .60 | 5. 70 |

| | | | | |
|---------|----------|------|-----|----|
| Isthmus | | | | |
| Nati | | 91.4 | 8 | 7. |
| onal | 19 p/100 | % | .40 | 90 |

Source: INEGI 2005.

In terms of quality of life both sides are extremely poor they have rates of poorness much bigger that the national average.

At same time rates of child mortality are bigger than national level and the averages of child that attend school are lower than the rest of the country.

Political and institutional actors

Based on work developed on field this part will explain the interaction between social and political actors and its impact over other actors.

Government

The positions from the federal and state government vary notoriously between Oaxaca and Veracruz Isthmus.

By one hand Oaxaca Isthmus do not believe in any kind of government, put in evidence the inexistence of political proposal for economic development, institutionally are perceived as very weak without any kind of organization or coordination between federal and state government.

At municipal level the perceptions are similar, in both sides the institutional weak is perceived. In the case of Oaxaca this feeling worst because do not exist any harmony between the uses and costumes system and the legal political party system.

Meanwhile in Veracruz exists a critical to the poor technical capacity and the insistence of economic initiatives.

In both sides the problem of tyrant leaders called “caciques” and a huge problem of land owner^v represent a conflict of governance and violence in this area.

The role of the church

Other element that represents a big difference between both Isthmuses is the role of the church. In Oaxaca church represent a fundamental actor in the process of economic development but not in the Veracruz Isthmus.

The role of the church as a mediator, defender of indigenous human rights and promoter of economic projects via cooperative structures has a lot of recognition in Oaxaca.

Indigenous

Dynamic of indigenous groups in both sides are completely different, each of them has a different cultural believes.

In general, they share same problems as agricultural, delimitation of the fields, environmental pollution, gender discrimination and indigenous rights.

But organizations in Oaxaca are stronger and better structured but at national level now are seen as problematic and without legitimacy because most of them follow political ends.

There are many cases related with problems between infrastructure projects and indigenous organizations, recently is the case of wind energy system developed by a private

company was suddenly blocked because negotiation was made with some actor but not with others^{vi}.

Other big difference between them is the fact that the indigenous organizations in Oaxaca Isthmus are oriented to gain political power and most of them have alliances with political parties.

In fact, these organizations have increased their relations worldwide mainly with the flag of human rights.

PEMEX

There is no doubt that PEMEX is the biggest economic detonate in the Isthmus zone and it has the most economic power in the area, but this power has not been received or perceived for the poorest towns.

Four are the main fact that make negative the image of PEMEX, first it does not demand workers for the local habitants, do not hire local companies, it is seen as the main producer of pollution, it produces a negative effect in the places where is established increasing the cost of life for the common habitants and they do not are benefited from the PEMEX presence.

Non-government organizations (NGO's)

The NGO's is considered as one of the main phenomena in the zone, especially in the Oaxaca Isthmus where people perceive that each municipality has its own NGO.

Position of these organizations in both sides is pretty much the same. In Veracruz have better reputation than Oaxaca but even though they have been developing connections with indigenous organizations.

They have replaced the absence of state and had been working in topics related to human rights, gender and environment.

CONCLUSIONS

Historically projects in the Isthmus area had been developed isolated as a single project. (*“Faster the efforts lower the results”*) In no one of the project presented in this work exist interaction between infrastructure and its implications in terms of economic, political, social, ecological and political implications and possibly that is why all of them had fail. (*“Easy ways end in the same point”*)

Other important implication is the fact that this region has been seen as a whole equal area and as we see on the Isthmus today this is wrong. (*“Actual problems come from yesterday solutions”*)

Oaxaca Isthmus is completely different than the Veracruz Isthmus, they present levels of development completely different and it is very complex to try to implement an economic development policy at regional level simply because its dynamism does not allow that. (*“Cause and affect are not necessarily related over space and time”*)

The same happens in the case of social projects, must be differentiated one from other, especially because the way in which Oaxaca Isthmus is organized following their uses and costume system, it won't fit with the Veracruz system. (*“The cure could be worse than the*

disease”)

Of course, not all the problem is because the mistakes historically made for the federal government; nowadays many actors interact in this area with no common end (*“there are not isolated mistakes”*) all actors represent a single part of a big foul.

Government must follow in each policy an inclusive systemic process (*“Little changes could make big difference”*) in which all element must be included, especially in projects related to infrastructure because this projects have many implications and the implementation of a project have benefits for some but for other not, and in many cases that has been a huge problem (*“More oppression over the system, more the reaction from the same system”*); As we see there are some examples in which the no inclusions of some actors immediately block the implementation process, as the case of wind energy project. (*“Good behavior could change to bad behavior”*)

We can conclude that the historic perception about the Isthmus as a single region was wrong, and for the previous the way in which public policies were implemented were wrong too.

But at the same time these inefficient designs of public policies were not only result of the belief of a single area but also because the elements that integrate this area were considered isolated and not as a part of a system, so interaction between them were not considered.

The systemic approach would represent a tool that would help us to understand part by part this complex process in which the isthmus is immerse, this process could be long (*“Can find the cake and eat it, but not do it at same time”*) but if it represents an element that

make difference in this area that have been form centuries one of the poorest areas it México the effort would worth.

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ⁱ <http://www.inegi.gob.mx/inegi/default.aspx>

ⁱⁱ In some studies, include the states of Tabasco and Chiapas.

ⁱⁱⁱ <http://fox.presidencia.gob.mx/actividades/crecimiento/?contenido=25674>

^{iv} <http://www.ciesas-golfo.edu.mx/istmo/index.html>

^v Some areas have more than one hundred owners with the same rights.

^{vi} <http://www.jornada.unam.mx/2008/05/15/index.php?section=politica&article=008n1pol&partner=rss>