eseconomía, vol. XII, 47, segundo semestre de 2017, pp. 95-121

Model development for the economic and social competitiveness of the beekeeping sector in Álamo, Veracruz

MODELO DE DESARROLLO DE LA COMPETITIVIDAD ECONÓMICA Y SOCIAL DEL SECTOR APÍCOLA EN ÁLAMO VERACRUZ

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(Recibido: noviembre, 2016/Aprobado: marzo, 2017)

ABSTRACT. At present, beekeeping production has a market that is determined by the increase in the global demand for honey and other products derived from the hive, in Mexico bee production has developed as a relevant activity, due basically to represents an important source of employment in the marginalized areas of the country, as well as one of the main foreign exchange activities within the livestock subsector. But the socioeconomic and technical conditions faced by beekeepers have had considerable consequences, since they do not have sufficient economic benefits. This paper proposes a rural development model for the economic and social competitiveness of the beekeeping sector. An exploratory and descriptive analysis of a specific area of study was carried out. The result of this work is a theoretical model for the competitiveness of the beekeeping sector.

Key words: development, social, economic, competitiveness.
JEL Classificatión: Q17.

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Resumen. En la actualidad, la producción apícola tiene un mercado que está determinado por el aumento de la demanda mundial de miel y otros productos derivados de la colmena, en México la producción de abejas se ha desarrollado como una actividad relevante, básicamente por representar una importante fuente de empleo en el sector, así como una de las principales actividades de divisas dentro del subsector ganadero. Pero las condiciones socioeconómicas y técnicas a las que se enfrentan los apicultores han tenido consecuencias considerables, ya que no tienen suficientes beneficios económicos. Este artículo propone un modelo de desarrollo rural para la competitividad económica y social del sector de la apicultura. Se realizó un análisis exploratorio y descriptivo de un área específica de estudio. El resultado de este trabajo es un modelo teórico para la competitividad del sector apícola.

Palabras clave: desarrollo, social, económico, competitividad.
Clasificación JEL: Q17.

1. Introduction

For García and Ramírez (2012), honey is a product of high nutritional quality for human consumption, and is used in industry and medicine. Its percentage of humidity depends on the composition of the nectar, the climatological conditions and the procedures used to obtain and store it. As pointed out by different authors as: Güemes, Villanueva, and Eaton (2003); Carbajal (2006); Kruijssen, Keizer, and Giuliani (2009); Magaña, and Leyva (2011), García and Meza (2012). Strategies to improve production capacities, due to lack of actions for the competitive and profitable strengthening of beekeeping, for years the competitiveness of producers in the states of the Mexican Republic has not been strengthened, due to the lack of quantity information and quality of honey production, there is no exchange of experiences of beekeepers, bee production is low; so, it is argued that production costs are high, they present a number of problems to beekeepers, which can focus on the socioeconomic and technological aspect, and mainly the aspect of economic support through the rural credit; so that, the small beekeepers will be displaced by the prevailing exigencies of the market of this rural sector. According to Danty (2008), the results obtained at the end of the season depend on technical management and production, genetic, environmental and

health conditions. Apart from the volumes produced, a concept that has emerged and which has become very important in recent years, such as food quality and safety, influences income. Honey is the product of major importance in the beekeeping production line and because it is a food, it is governed by national and international standards. One characteristic that the markets demand of these products is the innocuity. This indicates that the products should not cause any harm to their consumers. Mention Cruz and Zaragos (2012), the consumption of honey in Mexico has undergone significant increases in recent years, this is due to the widespread tendency to consume products of natural origin or that do not contain chemicals in their preparation. SAGARPA (2015) in Mexico is dedicated to beekeeping around 43 thousand producers and has a record of 1.9 million hives.

The success of any rural organization depends on a number of factors, some relating to human capital activity, rural organization have to assume great challenges because of the changes that are occurring in the commercial exchange in all the aspects, and their repercussion Immediate in social and economic processes. This implication forces new perspectives, orientations, models and designs, to adapt to the changes of the environment, for that reason, it requires the development of the rural organization (apicultural) and a better adaptability to its environment and the attention of the specific problems that arise in their interactions. A rural organization is a dynamic system coordinated for specific purposes, made up of more than two people, with relational collaboration and that is fundamental for its permanence.

Rural organizations are complex because they are socially conformed. In rural organizations there are differences that are in the type of activities that they develop and the use of the technology with which they count to realize their production, also the type of sales and the distribution that they make of their product sold and distributed in the diverse Markets. According to Chiavenato (2004), rural organizations operate in different environments, experience various restrictions and contingencies "according to time and space" and seek to react to them, through different strategies and behaviors to achieve different results of improvement. This requires a new rural and regional development policy, with a dynamic element of financing for competitiveness as the axis of economic and social development. A determining factor for achieving rural economic benefits

(beekeeping) is that this sector is competitive in this activity, and is due to the achievement of a higher production of honey and technical efficiency of the beekeeping, being fundamental for its development the access to credits, which allows them to improve their activity in an integrated way, with the correct combination of available resources and the reduction of the impact of socioeconomic and technological factors, which may affect the production of honey. For this research was used, the diagnostic methodology for rural development, since the object of study are the factors that influence the development of beekeepers in Álamo Veracruz. With the result of this study, a strategic model of competitiveness for the development of the rural sector (apicultural) is proposed.

2. Development model for economic and social competitiveness

The low level of income of beekeepers in Álamo, Veracruz has a consistency of the inability of the rural organization to produce honey that can sell beyond its limits. Its sales are concentrated on a regional basis, without participating in exports, concentrating its sales solely on the production of honey, which consist of highly competitive markets, and strictly regulated in the consumer market.

What are the reasons behind the poor economic performance of beekeepers? In this research the model of growth diagnosis (growth diagnosis) developed by Hausmann, Rodrik and Velasco (2005), a three dimensional diagnostic model by Patrick Williams (1982), organizational model of Kast and Rosenzweing (1990), and proposes from this a model that will be called development model for the economic and social competitiveness of the rural sector (beekeeping). Starting from a sub-local apicultural context, table 1.

The objective of this research remains the same: to identify the main constraints to the economic growth of beekeepers in Álamo, Veracruz. Since the concept of competitiveness is relative and can be measured in different spaces, at the level of rural organizations, companies, sectors, regions or countries, it is important to define the meaning in which this concept will be used in the present research. Cannock (2011) refers to the ability of industry players to perfect their skills in transforming honey production levels into

goods of adequate quality to compete with similar sectors in the domestic market and other countries and that can be traded in the appropriate markets.

For the proposed model, it is based on the fact that the development of the sector will depend on three categories:

- return on investment in the sector,
- the ability to appropriate such returns, and,
- the ability to obtain resources to finance investments in the sector.

Within each of these categories there are specific factors that restrict them. In this research a theoretical level will be contextualized to establish which would be the main factors that diminish competitiveness to the rural sector (apicultural), as well as the reasons why these factors could become restrictions.

CIVIS (2009) mentions that the rural organization should compare

Table 1
Potential determinants of the competitiveness of the rural sector (beekeeping)

Return on investment	**Power capacity to appropriate returns**	**Capacity of get resources for financiate investments**
Microeconomic environment - real exchange rate over-valued absence of factors complementary to the investment - business capacity - workforce - infrastructure (ports, roads, energy, telecommunications) - use of inappropriate technology/lack of adequate technology - land tenure high transaction costs for apicultural chains and associations	Tax structure - weak property rights-inability to enforce contracts and agreements - inability to comply with quality/health standards/standards - social conflicts High informality - climate Change Risk (water resources) - corruption	Financing (private and/or state) - absence of local funding sources - absence of long-term financing

Source: own elaboration, based in Soto (2016).

changes in their own social environment over time and examine the reasons for those changes. Organizations should also strive to inform funders and investors about the importance of understanding the ratio as part of the analysis. Compatibilization requires, as Offe (1990) points out, the parallel development of commodification functions of what is produced. Understanding by this concept the responses and interventions of the participants that ensure that the rural organization maintain certain socially acceptable grades and standards of living regardless of their participation in the work organization.

This research proposes a fourth category, table 2

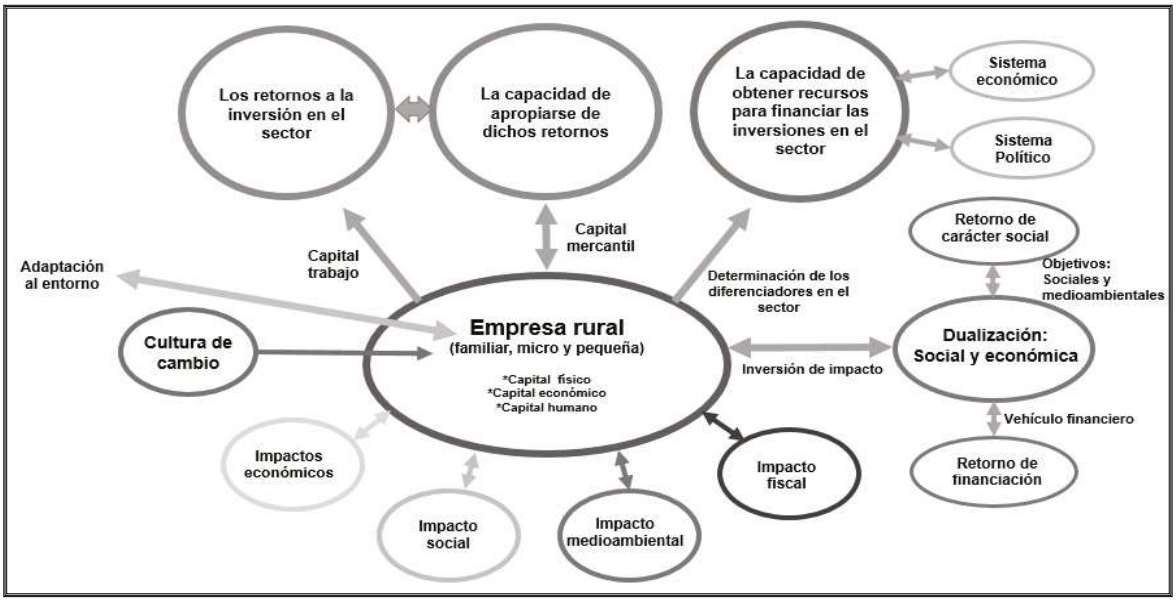
Table 2
Diffusion impact investment (social and economic)

IV Dualization: social and economic	
Social return	**Return on financing**
- improve social welfare by incorporating organizational, environmental and economic costs and benefits - organization with social and environmental benefits with income generation - income collection and reinvestment of benefit - participation of group fund from the profits obtained	- request a reduced business risk - the property is not diluted - scarce rights to the creditor in case of bankruptcy - flexibility for the entrepreneur - low interest payment - permanent support consultancy

Source: own elaboration, based in Soto (2016).

The definition made by Marshall and Cortés, cited by Danani (2009), maintains that social policy is one of the forms of social intervention of the state that contributes to the production of living conditions, through the indirect regulation of the form of merchandise of the labor force. According to Smith (1991) he mentions that Adam Smith in his work: *The origin of the Wealth of Nations* (1776) as a relation between individuals in a state of nature, since each works and produces a different product by division of labor, which exchanges it for that of the other, and both are owned by private property, given the fact of exchange, have been put on the market and have been transformed into commodities.

The rural enterprise has difficulties to be subject to credit, although the regional conditions are very good, due to the great variety of citrus that is had in Álamo, Veracruz and flora of temporality, in figure 2, it is possible to observe the possible investment returns on the part of the small rural enterprise, in addition the proposal of the impact investment is presented, with the expected benefits in relation to the impact: social, economic, environmental and fiscal. Also the requirements of the culture of change on the part of the rural company and the adaptation to the surroundings.



Source: own elaboration based on Danani (2009) and Cannock (2011).

Figure 2
Possible determinants for rural development

In this research it is proposed for rural support (of beekeepers), through the investment of impact: Social and economic dualization, for its implementation requires the structuring of special programs of economic resources for low-scale social entrepreneurship, figure 2 will initially seek a financial return, preparing these small rural organizations in the use of the economic resources provided to them, the participating rural organizations will have to generate initial resources, so that they develop an economic fund own, where the return is the benefit for the participating organization, so that it is reflected in the implementation of projects for the improvement of the organization.

These supports will have to operate with different rules and because investors must be convinced that they will put the economic resource, and that these resources can be recovered, but not with the extreme financial market profits that are currently in the country or government support. Therefore it is proposed:

- As a first step, it is proposed to consult to meet the criteria for access to economic resources (private or state).
- The second point will be continuous advice (private and governmental) to make the best decisions for the beekeeping organization.
- The third is the support in the management to penetrate the national and export economic market.
- The fourth is to create an investment fund, where the participants are the beekeepers themselves and participate in the creation of collaborative structures (creation of own funds by small beekeeping organizations).

The structure of the dualistic form of intervention seeks to implement a form of support to small and medium organizations that it is very difficult for them to access credits in the national economic system, being a possible transition towards forms of profit, focusing the impact social and environmental, with the generation of income. Freireich and Fulton (2009) argue that the term impact investments, known as (impact investing), was first coined and disseminated by the consulting company Monitor Group, the most accepted definition of impact investment is that of those capital investments in companies or funds that generate social and/or environmental goods together with returns for the investor that can range from the simple return of capital to a profitability equal to the market, also mention the authors who We have categories of impact investors and propose two characteristics:

- They seek a financial return as a minimum of invested capital and, therefore, cannot fit the impact investment in the world of philanthropy or donations to fund.
- Investments are explicitly targeted at initiatives that have a social impact. This social objective is explicitly sought and, therefore, part of the investment decision of the organization.

Therefore, impact investments always and without exception seek a financial return, at least equal to the principal capital invested or permeate in the locality where the work organization is inserted. Ruiz de Munain and Martin (2012) mention that impact investments are a set of investment decisions usually in listed companies (whether variable or fixed) or sovereign debt, which include in their analysis, in addition to traditional criteria (profitability and Risk), environmental, social and governance variables because they understand that they add value to the financial profitability.

3. Socioeconomic characteristics of producers

According to Vera and Vera (2013), they point out that the socioeconomic level is not a physical characteristic and easily identifiable, but is based on the integration of different traits of people or their households, whose definition varies by country and historical moments. This is illustrated by the many conceptualizations on "socioeconomic level", among which we cite: *The New Dictionary of Cultural Literacy* (2002), 3rd. ed., refers to it as the position of an individual/household within a hierarchical social structure.

The National Center for Educational Statistics defines it as a measure of the relative economic and social position of a person/household. Also, the Center for Research in Education, Diversity and Excellence, presents it as the measure of a person's social place within a social group, based on several factors, including income and education. Mori (2008) considers that the socioeconomic level along with sex and age are the three indicators that make up any demographic study.

However Gil (2013) not always agrees on the possibilities of its logical determination, the fact to be able to compose indexes of socioeconomic level by selecting different indicators and often assigning different values and weights even to those variables that had greater coincidence between researchers and users, which can project divergent images of one same structure, limiting the comparability between different studies and making it difficult to analyze historical series over time.

The status or socioeconomic level (NSE) is a total measure that combines the economic and sociological part of the labor preparation of a person and

of the individual and family economic and social position, in relation to the beekeepers of Álamo, Veracruz. It can also be discerned that it is an important indicator in any demographic study. According to Gottfried (1985) and Hauser (1994) it includes three basic aspects: the economic income, educational level and occupation in this case study is the beekeeping occupation. For this reason, it is important to approximate the socioeconomic status of producers through an empirical indicator.

The information obtained with a measuring instrument that was applied to 24 beekeepers, recorded results referring to the fact that in general honeybee extraction from Álamo beekeepers, since this is the easiest product to extract and commercialize regionally, derivative of the production of the hive, but the derivatives such as pollen, royal jelly, poison and propolis are not used.

On the other hand Van Hauwermeiren (1999) argues that a successful economy is always thought of as one in which both income and consumption grow and that with this economic growth will also increase the quality of life, however this relationship is not so direct since after a certain level of economic growth, the relationship tends to be reversed and growth begins to produce social, environmental and cultural costs that are not offset by access to higher consumption. According to the results obtained by the questionnaires applied to beekeepers in Álamo, Veracruz, 65% have only the basic level of education and 18% do not have education.

4. Characteristics of rural organization and its production

In the framework of the so called school for the analysis of organization and production, Chayanov assumes that the peasant economy has a family character, pointing out that the organization of the peasant economy is determined by the composition of the family of the peasants, their coordination, their consumption demands, and the number of workers they have (Chayanov, 1931, quoted by Wolf, 1982). From Chayanov's works, he explains that it is the peasant economic unit, which had its own social and economic characteristics, which differentiated it from other forms of production and market insertion (Barril and Almada, 2007). Chayanov points out that the economic activity of the peasant enterprise is stimulated by the need to satisfy

the subsistence requirements of the production unit. In this way, and unlike the capitalist enterprise, which is geared towards the exchange value, the peasant economy does so at the value of use (Hernández, 1993).

The term family production unit (UPF) is incorporated by Schejtman (1982), when defining peasant economy, as the sector dedicated to agricultural activity where the production process is carried out in family type units in order to ensure reproduction of the producers and of the production unit itself. Thus, the UPF is a basic multifunctional unit of production organization in the field, which uses market situations, natural and social conditions of its surroundings; developing a rationality of their own which is expressed in the mobility of their workforce (Hernández, 2007).

Social (family) production units must be or become the fundamental tools to lay the foundations for a new productive model, in which the family and its members, in an organized and conscious way, exercise a real social control over the system To build (Álvarez, 2012). The typological definitions of production in the region include a set of segments ranging from subsistence beekeeping, and even in some definitions, to landless beekeepers, to the segment of family owned beekeeping that generates surpluses (FAO/SAGARPA, 2012). For the construction of typologies according to Gutman (1988) states that explicitly or implicitly there are three purposes that a typology can and must satisfy:

- Delimit: recognize different subsets within the system under study; In the case of study is the set of apicultural producers.
- Characterize: describe, qualify, quantify the attributes of each subset as such.
- Relate: help explain the relationships between the subsets and, between them and other sets in terms of cause and effect on the same elements used in the delimitation and characterization.

For their part, the authors Barrientos and Ferrer (2002) argue that, given the close relationship between delimitation and characterization, there is no "true" typology, nor it is possible to construct a universal typology that satisfies any purpose, since there are so many typologies as interests of analysis, although it must be remembered that, to be operative, a typology must try to reconcile extremes of generality and specificity. It is necessary to conceptualize the actor to be analyzed in order to differentiate it from the

other actors linked to the production process (producer, service, workers); the natural or legal person who carries out an activity (as an apicultural example) will be defined as a producer under any form of tenure of natural resources and is characterized by providing the capital, making the decisions and assuming the risks of the same.

Then, according to Gutman's (1988) approach, one must:

- Define conceptually which are the main groups, and
- Establish how they are recognized in reality.

Gutman (1988) continues, both steps are necessary and, in practice, they occur in an iterative way, but it is clear that a conceptualization that lacks the instruments for delimitation in practice runs the risk of being a mere abstraction. On the contrary, a factual typology (of facts) will be arbitrary in its idea and errant in its application if it is not based on a conceptual delimitation. A conceptual definition is, therefore, a first approximation, with a high level of generality of what is being studied, that results from the knowledge reached about the social system and the traits thereof that may be more significant for the work activity (beekeeping).

Barrientos and Ferrer (2002) in the typology proposals, for example, a classic division is the division between peasants and entrepreneurs, but the presence of capitalist elements in peasant farms, or the various magnitudes of capital in business organizations introduce differentiations heterogeneity) within each beekeeping social type, which speaks of the need to understand typologies as a methodological construction that will make it possible to understand a certain reality.

Authors Carballo (1996), Aparicio and Grass (1999), Aranda (2015): indicate that they can be distinguished in the whole of the apicultural production systems, grouping them into two large groups:

- Business organizations.
- The family organization, which is described in the table 3.

Table 3
Main characteristics of the predominant models in the rural organization (beekeeping)

Determinants	Model family business	Business model
goals	maximize benefits	* maximize income and family stability * the work is not part of the costs of production * emphasis on continuity of the production
availability of resources adequate	suitable	insufficient
linking with markets	satisfactory	unsatisfactory, under power of individual negotiation
organization of work	* predominance of work salaried	* predominance family work * salaried work alone complementary
process management	* centralized organization. * direction and work in charge of different people	* direction and work in charge of the family
organization of the production	* tendency to specialization and easily standardized practices, in order to eliminate decisions "in practice" or "on the fly"	* tendency to diversify, ability to make immediate decisions, * suitable for the high degree of unpredictability of the process of production
selected technologies	* oriented to increase the production of labor and reduce permanent labor	* defined according to the handheld availability family work
source of inputs	* total dependence on purchased inputs, of increasingly industrial origin	* tendency to a greater employment of inputs produced in the organization

Source: own elaboration based on Carballo (1996) and Aranda (2015).

The concept of company has different meanings. For the classical economy, companies are all economic units that organize and produce goods and services. Assuming this definition, every beekeeper should be considered as a company which, in turn, could be classified as; micro enterprise, small business

or family business, medium enterprise and large enterprise. We can determine that in this definition of company, the majority of beekeepers of Álamo, Veracruz, would not fit within this definition. Carballo (1996) defines as family production units the following, are those of the domestic production type, which under any form of tenure are organized around family work, seeking to maximize the total income perceived by the production unit. These "up" production units are usually constrained by the available resources and have some difficulty in articulating to the markets for goods, products or inputs.

According to Barril y Almada (2007) on the definition of family production units, they are a set of agricultural holdings that base their productive activity on the work of the producer and his family, where the production can be destined for family consumption or sold to different Markets. Gutman (1988) says that it will be necessary to conceptualize the fundamental subgroups of work, and will proceed to delimit them in reality. Therefore, it is required that guidelines should be established for observers, so that they contribute criteria that allow the recognition of the terrain of their work, expanding or reducing the initial detail of their activity to be able to typify it.

Carballo (1996) proposes that the structural factors of the beekeeper are those that mainly explain the behavior of the production, since they show the form of insertion of the beekeeper, in the beneficial process from the availability of profitable resources. Factors to consider for this research are as follows:

- Availability of component elements of production (endowment and combination of hives, capital and labor).
- Social work organization (relative participation of family/salaried work).
- Relationship with markets (negotiating power of the different financial markets, inputs, products derived from honey and beehives.

According to Pokorny (2011) in order to maintain the diversity and the enormous cultural and environmental potential of the region, it is necessary to develop new conceptual and operational visions of rural development, considering the great potential of production to contribute to sustainable

development in the region, new development models must take into account the diversity of traditional communities. Apiculture and regional production faces major problems that affect the social, economic and environmental dimensions. It is important to strengthen the sector, developing appropriate tools to enhance this activity, seeking to improve the beekeeping organization.

5. Economic development of the sector

The concept of development, Castillo (2011) affirms "development" is that which produces changes in economic life that are not forced from outside but that arise from within, on its own initiative, if it happens that these changes do not occur in the same economic sphere, and that the phenomenon we call economic development is simply based on the fact that the data change and that the economy adapts to them, then we should not talk about economic development because it does not cause qualitatively new phenomena but only processes of adaptation of the same quality that the changes in the natural data.

According to De la Paloma, Maeztu and Gargallo (2005) argue that "economic growth" is an aspect of another more general process, the development of a society, therefore, the concept of development is broader than that of economic growth, in fact, economic growth can take place without a real development, that is to say, without growth entailing a transformation of the level of well being (economic, social, cultural, health, etc.) of a society, growth without global welfare can lead to societies that, even achieving a strong economic increase in some sectors or geographical areas, the income generated only affects the beneficiaries of these sectors, while in the rest of society the previous level of development is maintained, therefore, we should not confuse development with economic growth, development can be defined as a continuous process of growth of the economy, during which apply the new technologies to the productive processes and other fields to which institutional social and political changes happen to them.

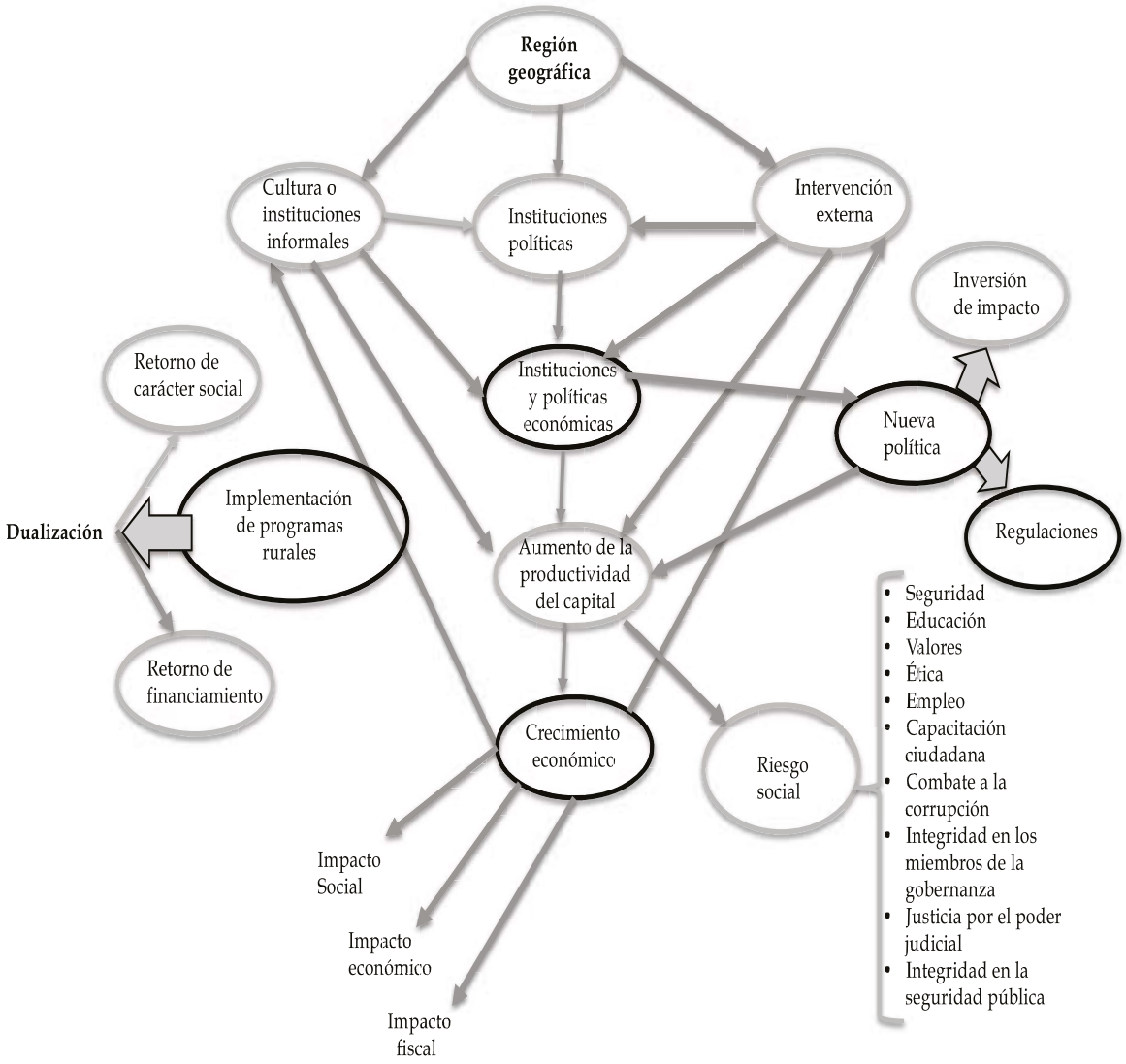
Therefore, development implies economic growth and structural changes. Economic thinking, is commonly induced by the need to solve

problems of "politics", this was true, as regards the initial period of the configuration of development economics, as this did not arise as a discipline But was forged as a practical matter in response to the needs of policymakers, to advise governments on what could and should be done to facilitate their countries emergence from chronic poverty. INEGI (2010) Mexico's environmental problems are not minor and affect the economic performance of the country and, of course, the quality of life of the population. Reviewing only some indicators on the situation that the environment preserves, we can verify the critical situation that the country is going through in this area.

These have negative repercussions on the well being of the population, the ecological balance and the economy in general. Flores (2012) argues that many entrepreneurs continue to believe that greater environmental regulation generates competitive disadvantages and that only means higher costs without being clear of benefits, the result of these evasive and frankly irresponsible behaviors keeps the country in a disadvantageous competitive position within a globalized economy, in which consumers increasingly value good environmental practices.

This comprehensive view responds to the fact that for most of their history, these developing countries lived under policies of economic and social improvement and segmented governance. Therefore, we think that after the evolution and accumulation of knowledge and information, it is time to consider implementing a system interconnected by a loop of positive feedback that determines a virtuous circle of Latin American comprehensive economic development.

Figure 3 shows the need to implement projects for rural development based on impact investment, in order to promote social, economic and fiscal impact. This will require the establishment of new regulations so that rural enterprises can participate In credit (for example, beekeeping companies), and urgently address social risk, with all its variables and indicators, the economic development factors in this productive chain has the economic policies and institutions, which appear at the link level because they are designed and executed by the Mexican State. And they are at the level related to factors of productivity and capital, known as growth accounting, this approach, which has its origin (Solow, 1956).



Source: own elaboration based on Castillo (2011), Dussel (2015) and Soto (2016).

Figure 3
Interfaces of the new rural investment policy

6. Financing for rural organizations

CONEVAL (2012), the problem that the program seeks to solve is the lack of access to financing for productive projects of low-income entrepreneurs, and its identified causes are the scarcity of resources that can be mobilized and the lack of training of social organizations and microentrepreneurs. ADRS-FAO (2007) according to the programs proposed through the

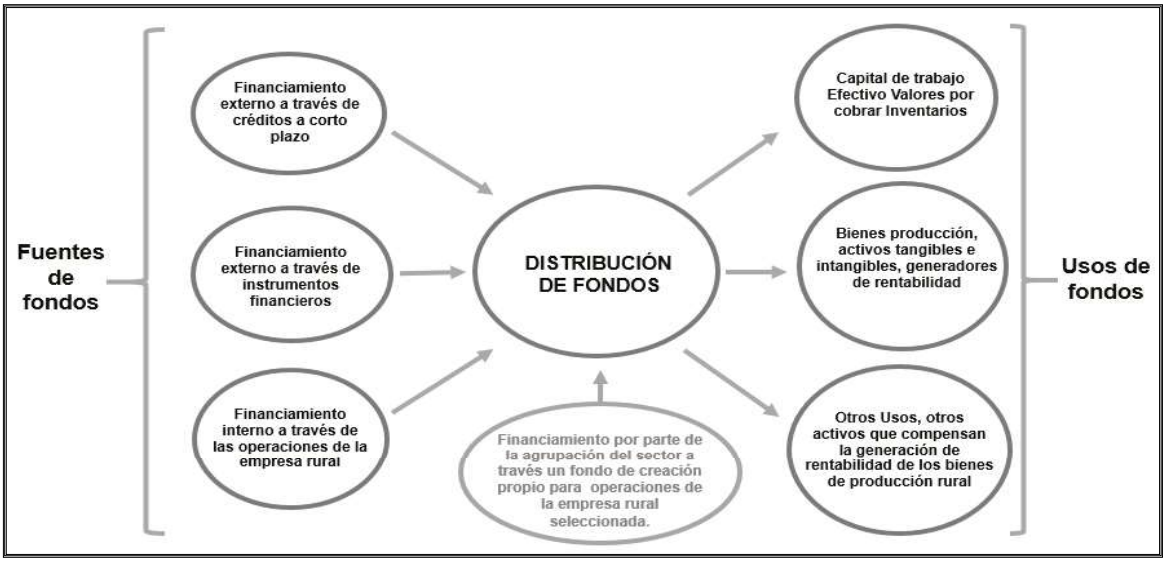
Financial Resources is sought support the provision of start-up funds and working capital through counterpart grants or loans, depending on the risk of rural enterprise development. BID (2004) the objective of the Bank's Rural Finance Strategy is to promote the provision of efficient, broad based, and sustainable rural financial services. To achieve this goal three types of actions are proposed:

- The creation of an economic policy and a favorable legal and financial regulatory environment.
- The establishment of efficient and sustainable financial intermediaries dedicated to providing services to rural areas.
- The promotion of new financial services, such as insurance, leasing and factoring in those markets where the first two actions are sufficiently advanced.

SEDECO (2014) the micro and small enterprise financing program "MYPES" to promote productive activities, through the granting of economic contributions to micro businesses and small enterprises whose purpose is to create and consolidate jobs, as well as the special program of Financing for the Marketing of Rural Products. 'FIDA' (2004) to foster collaboration with commercial banks, microfinance institutions and micro-lending enterprises to ensure that rural enterprises, especially those run by poor people, have access to adequate financial services to meet their needs. CONEVAL (2012) for 2011 has the quantification and territorial location of the potential population based on the information reported by INEGI in the National. Survey of Microentrepreneurs (ENAMIN, 2008).

It is important to mention that the data that INEGI reports that microentrepreneurs account for a subset of the program's potential population, given that entrepreneurs identify themselves as those who already have a microenterprise and also those who do not yet have a microenterprise but already have a project, for example. Given the lack of methodological criteria for defining low income micro entrepreneurs and men, the program does not, require microfinance institutions and intermediaries to carry out an explicit targeting of job applicants. To determine whether applicants meet the requirements of objective, to be supported and become a beneficiary population.

For the purpose of the distribution of funds, it is closely correlated with that of the financial structure and its cost of capital, and directly linked to the financial objective of the rural enterprise. Altuve (2004) is the intermediate step between the acquisition of funds (objective of the financial structure) and the placement of the same in assets capable of generating a satisfactory return (objective of the investment decisions). The funds, as can be seen in figure 4, proposes to adapt and optimize in their cost of capital, so that, at least, the value of the rural enterprise remains unchanged.



Source: own elaboration based on Altuve (2004) and Soto (2016).

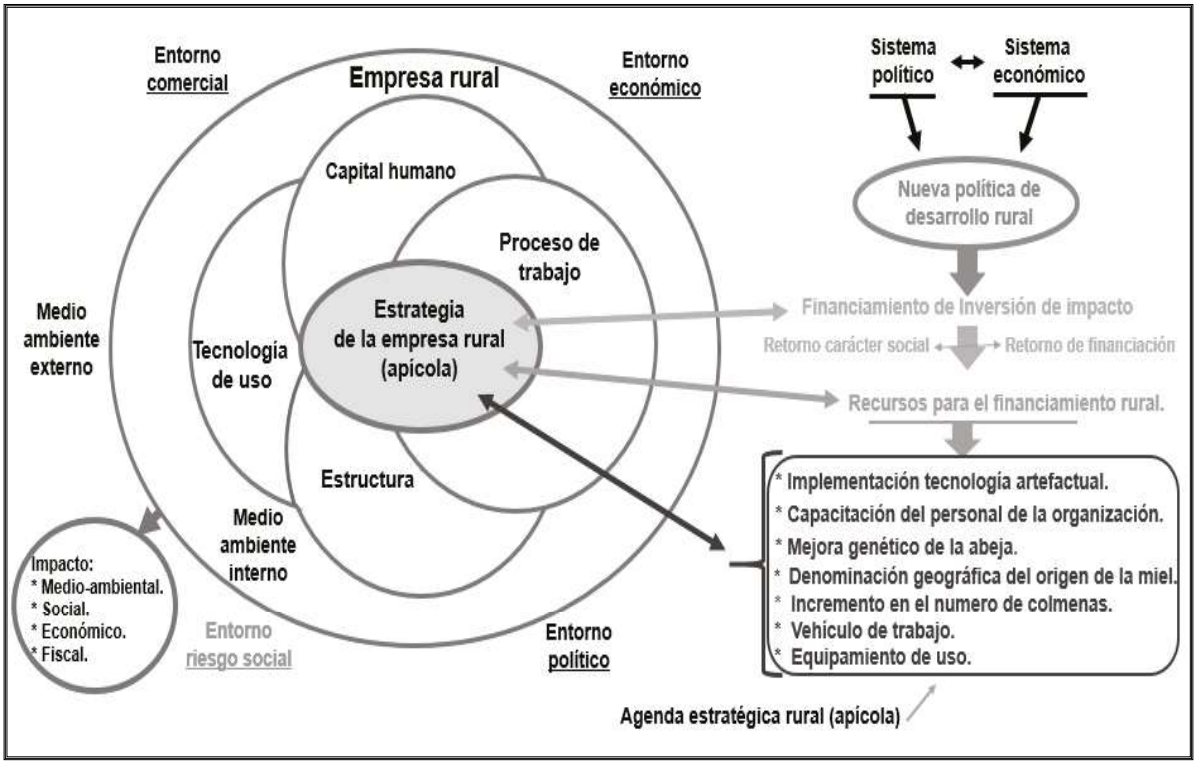
Figure 4
Distribution of rural funds

In the investment decisions are tried to maximize with the purpose of preserving the value of the rural enterprise that is, seeking to obtain the profitability generated by the projects in application, seeking that the lower limit be the average cost of capital. Johnson Sholes y Whittngton (2010) argues that the objective of capital investments in a company, without taking into account the legal form of its organization, is to maximize the utility or satisfaction of its owners.

According to Suárez (1998) one classifies investments as follows: *a*) Renovation or replacement investments, which are carried out in order to replace an old productive equipment or element with a new one *b*) Expansion investments,

which are those that are made to meet increasing demand. *c*) Modernization or innovation investments, which are made to improve existing products or to set up and launch new products. *d*) Strategic investments, which are those that try to reaffirm the rural company in the market, reducing the risks that result from technical progress and competition.

The financial needs of the rural environment will continue to be a strategic element within the country's public policy. This is due to the persistence of structural problems, as well as the proportion of the population included in this sector; In turn, the problem in defining the object of public policy, that is, what elements form the rural milieu, what its economic structure is and what the relevant population will continue to have a nebulous definition, the role of the state in this matter is still important, the most important aspect in terms of a public policy for the development of a rural financial system is the continuity and long-term vision.



Source: own elaboration based on Soto (2016).

Figure 5
Comprehensive strategy for rural development (beekeeping)

7. Technology as a strategy for rural development

Technology is considered as a set of artifacts that have been designed and function as a relatively efficient means to respond to the current physiological and biophysical context, in a particular locality and period (Willoughby, 1990). On the other hand, Burgelman *et al*. (1996), Morcillo (1997), In this paper, we present a set of theoretical and practical knowledge, methods, methods and procedures that allow us to combine different (tangible and intangible) resources and capacities (know-how, talent, skills, creativity) in production and organizational processes.

8. Strategy for rural development (beekeeping)

Strategies for the rural organization (apicultural) will depend on the economic resources for its implementation, without doubt the economic financing will be the percussion to be able to undertake the actions of improvement of the rural enterprise. The development of this sector will depend on the available resources. The growth strategies of the rural enterprise (beekeeping) will be determined by two kinds of growth: internal growth of the rural organization, manifested through the technological strategy (to improve the processing of honey and increase the production of Honey) and/or diversification of hive production, and external growth, occurring through acquisitions and alliances in the rural sector, figure 7.

The objectives and tactics of the rural strategic agenda (beekeeping) will be determined by a time horizon, and the resources available to the rural organization and the economic support should be established, through the financing of investment impact, this impact investment is directly linked to the impacts of the local environment, and the success of these implementations will depend on the return of funding and social benefit. León-Valbuena (2013) competitiveness is a concept that must be applied, since it determines an approach of the organization catalyzing the changes in evolutionary processes of the improvement of the business towards a maximized production, being responsible and committed to the transformations that must occur in each pre-established role and in each of the links forming the

value chain of the rural organization. They have to act as subteams, and at the moment of functioning as a system they are united and coordinated in a complete team, together with the knowledge and experience of its members of the rural organization.

9. Conclusions

Although there are programs such as Productive Procampo in which the technological use diffuses, there is still unsatisfied demand, since the local producers of Alamo do not know or know about this type of programs. With regard to the institutional constraints for the formation of productive chains, the lack of investment by the sectors (private and state), as well as the low level of education of the labor force, which is a great limitation in the productivity of the hand of work in the rural sector (beekeeping), a limited and differentiated infrastructure between regions, among the elements presented so far in this study. In addition, institutional constraints of a more general scope (corruption, lack of political representation) are considered, in Mexico there are a number of weak institutions that can be a limitation for the development and competitiveness of the rural sector (beekeeping).

In particular, Scott (2011) mentions that associativity could greatly improve competitiveness. The production of other products derived from honey and the establishment of a denomination of origin mark differentiation in the market. According to Goslino (2010), the general strategy for the beekeeping sector is to focus on the production of honey (conventional and organic), increasing the honey production base, organizing the sector to avoid the coyotage of its produced product, and working on the capacities of all actors in the value chain, and the provision of various marketing alternatives favoring the gradual addition of value to honey And the diversification of this product. The literature provides two alternatives to explain its achievement, one of them maintains that external conditions determine competitiveness and the other indicates the competitive advantage, which is found in the existence of the rural organization (apicultural). For this research, a theoretical model was proposed for apicultural competitiveness. In the proposed model, the importance of impact investment is highlighted in order to carry out the different strategies. Some of the proposed strategies, which are;

increasing hives, genetic improvement of queen bee, use of technology, increase the use of work vehicles, training of staff and seek the denomination of origin of honey, in the case of the northern region of Veracruz, which prevail citrus crops. Currently Mexico is losing productivity and competitiveness, so it is necessary to propose models and schemes, which will increase productivity and make the honey industry competitive.

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