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## Feasibility Study to Determine the Demand for a Bachelor's Degree in Agricultural Administration at Universidad de la Sierra, in Moctezuma, Sonora

*Victor Guadalupe Santiago Hernández, Martina Alcaraz Miranda, Alejandro Córdova Yáñez*  
(Business Faculty, Division of Economics and Administrative Sciences, Universidad de la Sierra, México)

**Abstract:** To every university, it is necessary to have and structure educational degree programs that allow their graduates to obtain better employment opportunities, which in turn will be beneficial to the area they are located, since the demand for higher education in the state is increasing and the institutions responsible for preparing quality professionals are growing.

The creation of Universidad de la Sierra, is justified by economic issues faced by many students, with legitimate and praiseworthy longings to receive higher education that allows them to improve their own life quality and their families, and that they are impeded to achieve it for not having enough economic resources to move or stay in cities where most educational institutions are located.

Given the growing need for the increase and development of the primary sector, the decision was to plan a new bachelor program, that focuses on this activity, the opening of a Bachelor in Agricultural Administration, which will enrich the academic offer at Universidad de la Sierra, can be justified in different aspects associated with the population growth of the municipality of Moctezuma, Sonora in recent years, according to INEGI and the demand for a bachelor program in the area of business, in turn it will meet the requirement of professionals in the administrative scope corresponding to the growth of economic activities in the region, it will also meet the requirement of higher education that demands administrative professional graduates.

The methodology used was the survey. This primary source was applied to the students in the fifth semester of high school located in the municipalities of Moctezuma, Cumpas, Granados, and Nacozari de García, Sonora, to obtain information used in the feasibility study.

As results, information from each survey was obtained, which is presented in figures for best comprehension, in the same way the elaboration of the study plan of the Degree in Agricultural Administration, with the purpose of establishing the content of subjects and objectives of the degree program.

**Key words:** feasibility study; curriculum; diversification of the educational offer

**JEL codes:** I

## **1. Introduction**

Universidad de la Sierra is a decentralized public body of the government of the state of Sonora. Inaugurated in 2002, it has legal personality and possess its own assets. It is located in the municipality of Moctezuma, and was created by Official Decree of the State Executive, with the participation of the then Governor of the State of Sonora, Lic. Armando López Nogales.

This educational institution was established in the mountain region of Sonora with the objective of providing better conditions that allowed the full exercise of the right to education to each individual and to achieve a greater educational equity. As well as the achievement of equality in opportunities for access and permanence of educational services to benefit groups and regions that face a largest educational lag or for those who live in disadvantaged economic and social conditions.

The institution began operations on the first day of September 2002, starting with only 167 newly enrolled students. By November, a visit from the then President of Mexico, Lic. Vicente Fox Quesada, was held and he formally inaugurated activities at the university, he also inaugurated the only building that then constituted Universidad de la Sierra.

In mid-2003, Universidad de la Sierra extended the range of opportunities for young people in the region, opening two new educational programs: Bachelor of Administration in Rural Tourism and Bachelor of Biology in Aquaculture Production.

Nonetheless, in August 2007, another educational option is offered: Engineering in Telematics and Computer Systems. The total population of Universidad de la Sierra has grown from 167 students, which was the initial enrollment, to 643 students nowadays.

Social indicators show a heterogeneous side where the reflection of an impoverished rural world contrasts sharply with relatively rich cities. In any case, a broad layer of middle class population has been strengthened, determined to consolidate a hard-to-reach socioeconomic position that has recently been threatened by the recurring economic crises they have experienced.

The modern vision of development not only seeks to raise the levels of welfare of today's human societies, it is also concerned about the possibility of inheriting a planet with acceptable levels of environmental and economic conditions for our future generations.

The development of our country cannot be achieved without the progress of each of its regions. Today, Mexico's regional inequalities make it clear that not all entities and localities have benefited in the same way from the introduction in international markets or from the profound socioeconomic changes that have taken place in Mexico during the last two decades. Therefore, a regional strategy is required to face both employment and welfare challenges throughout the nation. To do this, competitiveness in all regions must be promoted in response to the purpose of each of them to exploit their potential. An equity strategy is also needed to gradually mitigate or eliminate disparities of social welfare indicators.

Post-secondary education today has a great strategic value in promoting the transformations that the country's urgency of development demands. Hence the need to train men and women who, from today's issues, are able to design solutions that contribute to the progress of the country and the strengthening of national sovereignty. Because of this, it is necessary that universities conduct a thorough review of the training process of their students, so that they acquire a solid and ethical training that allows them to function in a changing environment and participate in all aspects of life.

The agricultural sector develops its activities in large part of the rural localities and takes advantage of their natural resources, becoming one of the main means of employment for the population living in those areas.

Therefore, the general objective of this article is to prepare a feasibility study to determine the demand for a new Educational Program in the Division of Administrative and Economic Sciences at Universidad de la Sierra, which is the Bachelor Degree in Agricultural Administration, to diversify the educational offer of the mountain region of Sonora. To carry it out, information was obtained that allowed us to study the needs and expectations of upper-middle-level students in relation to their professional studies aimed at Universidad de la Sierra.

Currently, Universidad de la Sierra, has assumed the commitment to promote the expansion and diversification of its educational offer, through new academic programs that present better opportunities to meet the educational demand of the population and to accomplish individual and collective projects with a purpose of strengthening social progress. Throughout its trajectory, the institution has proposed curricula implemented through feasibility studies.

One of the main problems the institution has is a lack of educational offer aimed at the primary sector activities that the mountain region performs, it is worth mentioning that this sector is of vital importance for the survival of the human being, since it is considered the sector responsible for providing food for consumption and it also includes all economic activities dedicated to the exploitation of natural resources, in that sense and in response to the purposes of equity and quality in educational care, progress has been made towards the formation of a higher education offer linked to the needs of the mountain region in Sonora.

Therefore, more competitive organizations that promote the development of the region and the state are required, a part of the reality of the problem is made up from the people, things and processes on which the action of professionals, organizations and how they work together with human talent in addition to the organizational resources such as: natural, physical, technological and financial.

At Universidad de la Sierra, according to the Division of Administrative and Economic Sciences (DCEA), bachelor degrees are offered in response to social needs. However, in other university institutions they present a wide range of careers aimed at different types of administrative fields.

That is why we opted for the creation of a new bachelor degree aimed at the agricultural field in order to generate new professionals who have a broader labor diversification based on the labor demand that prevails in this region.

Additionally, we intended to make the academic program of the Division of Administrative and Economic Sciences more attractive, to engage the population of graduates from high school education already trained in areas related to the agricultural-administration field that often leave the region in search of higher education actions at the bachelor's level.

This will allow the institutions dedicated to the primary sector have people trained to work in such jobs and exploit the activities of this area, being the main source of income which has not been done properly, due to the lack of ease for implementing projects and programs that benefit our region.

That is the reason why the feasibility study was carried out, according to Dino (2010), "A feasibility study consists in defining the level of feasibility to achieve the solution of the needs, this study includes the objectives, scope and restrictions on the system, in addition to a high-level logical model of the current system. From this, alternative solutions are created for the new system." (p. 73). To determine the viability of the project in the creation of a new career.

Carrying out this project will be of great benefit to Universidad de la Sierra since with this, it will allow to

make timely decisions about the viability of the project for the Department of Administrative and Economic Sciences, so that students are able to access the agricultural-administrative labor field and cover much of it.

## **2. Literature Review**

The difficulties in the development of Mexico are the progress of each of its regions. Today, the country's regional inequalities make it clear that not all entities and localities have benefited in the same way, both from the process of insertion in international markets, or from the profound socioeconomic changes that have been undertaken during the last two decades.

The region is characterized by its relative social and economic delay, compared to the rest of the state. For some time now, the mountain region, although it has significant advances in social infrastructure, faces a crisis process in its productive sectors. Decapitalization, overdue portfolios, little investment, financing problems, population decline, and failures of paid employment are common features that affect the levels of well-being of its inhabitants (Coronado, 2017, p. 11).

To carry out our research it is necessary to define certain concepts, such as feasibility, relevance, regional development, which will help interpret the object of study and through this establish a framework that conceptualizes the issues to be referred to in this project.

For Varela (2001), the term feasibility is understood as the possibilities that a given project has to achieve. It also states that the evaluation of the project has as its main objective to determine the feasibility indicators of the project such as: the internal rate of return, net present value and the point of economic equilibrium (minimum level of sales necessary to recover costs) (p. 5).

Therefore, a feasibility study is the analysis that a company carries out to determine if the business that is proposed will be good or bad, and what strategies must be developed in order to achieve success.

On another hand, Torres (2008), affirms that a feasibility study of a project is the one that has passed the following basic evaluations: market evaluation, technical evaluation, environmental evaluation, financial evaluation, socio-economic evaluation (p. 18).

The making of a feasibility study, aimed at the new educational program of the DCEA, will allow us to know the expectations of the students willing to enroll in the institution, in such a way that it is a tool used to guide decision making in the realization of the project.

A feasibility study is the analysis of a company to determine if the proposed business will be good or bad, and under what conditions it must be developed to be successful. If the proposed business contributes to the conservation, protection or restoration of natural resources or the environment (Sapag, 1995, p. 82).

As Arias (2006) points out, it is an action proposal to solve a practical problem or satisfy a need. It is essential that this proposal is accompanied by an investigation, demonstrating its feasibility or possibility of completion (p. 136).

To carry out this feasible project, the first thing to be done is a diagnosis of the situation; secondly, it is to propose and substantiate with theoretical bases the proposal to elaborate and establish, both the methodological procedures, as well as the necessary activities and resources to carry out the execution of the project.

One of the challenges our country is facing in order to have greater competitiveness and development is to have a quality and relevant education, capable of training professionals according to the competences demanded by our society.

The concept of relevance of educational programs of higher education refers to the university's ability to respond to the needs and expectations of the community. Likewise, it is related to aspects such as priorities expressed in the government's official plans for development, as well as studies about offer and demands of educational services, and studies related to the students' competences and training.

UNESCO (United Nations Educational, Scientific and Cultural Organization, 1998) addresses the following: Relevance in higher education is primarily considered in terms of its role and position in society, its functions regarding teaching, research and related services, and its links to the labor world in a broad sense, with both state and public funding and their interactions with other levels and forms of education.

For Rodríguez Gómez (1999), and according to the National Association of Universities and Institutions of Higher Education (ANUIES), he states, in the document *Higher Education in the 21st century*, that "... social relevance is evidenced through the coherence that exists between the objectives and the terminal profiles established therein with the prevailing needs in the sphere of influence of the educational institution, with the labor market or with local, regional or national development projects".

It is important to mention that feasibility and relevance are related, since a feasibility study measures the success of a project and the product that is generated, and relevance is one of the criteria used in educational policy with the purpose that the Higher Education Institutions (IES) become agents that contribute to the improvement of the social environment where they are located (COEPES, 2008).

Higher education today has a great strategic value in promoting the changes that the country's development demands. Hence the need to train men and women who, from their own problems, are able to formulate solutions that contribute to the progress of the nation and the strengthening of national sovereignty. For this, it is necessary for Higher Education Institutions to carry out a thorough review of the training process of their students, so that they acquire a solid and ethical training that allows them to function in a changing environment and participate in all aspects of life.

Hence, Ibáñez (1994) considers that education aims at the development of capacities and attitudes of individuals for their integration into society as beings capable of regulating the status quo and at the same time they can transform social reality into the values prevailing at a specific historical moment. Therefore, the task of higher education is "the training of competent professionals; individuals who solve creatively, that is, in a novel, efficient and effective way, social problems" (p. 104).

According to Guerrero (2003), Higher Education "Is responsible for providing education to young people and their characteristics are closely related to the quality of their students' training, considering that quality refers to a system where the main factors are the individuals who are able to organize efficiently to meet the expectations of the educational organization for this reason, its function is directed to the development of creativity and innovation in themselves, promoting an educational environment that in addition to solving current social problems together with students, also help prepare better professionals for the future" (p. 180).

It is then that higher education becomes a valuable element for today's society, in addition to fulfilling a strategic role for economic growth, coupled with this, it expands its borders to a model of society that brings well-being to its inhabitants, reduces the gaps between regions and social groups, promotes democracy as a way of life in all fields of human action, promotes tolerance and respect for social coexistence, contributes to political maturity and facilitates means for men and women of a country, it constantly transforms and innovates their living conditions from an integral perspective of human development.

### **3. Materials and Methods**

This section aims to describe the procedures that were carried out during the investigation, as well as the instruments and tools used to collect significant information that is part of the development and preparation of this research entitled “Feasibility study to determine demand of a new career at Universidad de la Sierra in Moctezuma, Sonora”.

To carry out the research, it has been determined that the type of study used to prepare this project is descriptive, taking into account the objectives and characteristics required to achieve the design and formulation of this project, according to Hernández (2010) “Descriptive research seeks to specify properties, characteristics and important features of any phenomenon that is carried out” (p. 119). By means of this type of study it is possible to analyze the phenomenon to be studied, conditions such as the degree of acceptance of the degree if you are interested in continuing your studies through a bachelor’s degree.

During our research we used the following data collection techniques: structured survey, which was applied to a population through a general census from students coursing their fifth semester provided by the high schools located in re region, CECYTE, Cumpas and Granados Sonora; CBTa # 53, Moctezuma Sonora, COBACH and CONALEP, Nacozari de García, Sonora. To collect data, each of the institutions was visited and the survey was personally applied to each student.

This instrument was developed in order to know if the students from those high schools were interested in the new Bachelor’s degree in Agricultural Administration. In turn, it allowed us to obtain information that is important for the opening of this new career, by the Division of Administrative Economic Sciences.

Surveys were applied by means of a census and information was obtained on the number of students corresponding to the fifth semester of each high school mentioned before, which were only applied once, which means they were applied to students who attended classes that day. That is explained in Table 1.

**Table 1 The Population of Fifth-Semester Students by Institution Is Made Up of Five High Schools Belonging to Four Municipalities Nearest to Universidad De La Sierra**

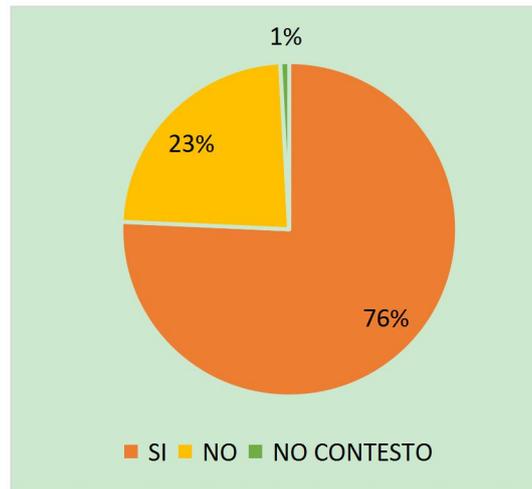
High school	Location	Total students	Students surveyed
<b>CBTa #53</b>	Moctezuma, Sonora	137 students	120 students
Cecyte	Granados, Sonora	69 students	53 students
Cecyte	Cumpas, Sonora	50 students	47 students
Cobach	Nacozari de García, Sonora	135 students	70 students
Conalep	Nacozari de García, Sonora	127 students	60 students
Total		518	350

### **4. Resulted y Discussion**

The information was collected in September 2018, given the complexity of the region and the location of each of the educational institutions. To apply this technique, the high school student population was taken into account, since the data requested covered all students in their fifth semester of high school.

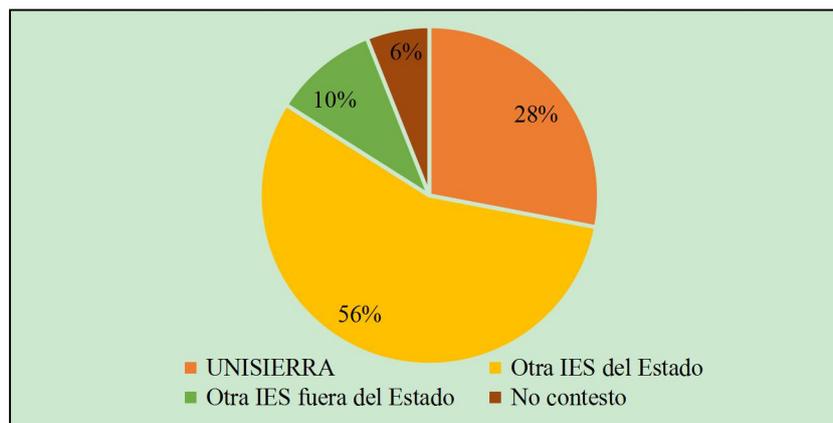
Figure 1 shows the result obtained from the surveys carried out in the aforementioned high schools, of 518 students in general, only a total of 350 were surveyed, making that 76% corresponding to 265 students who are interested in conducting their studies through a bachelor’s degree, 23% that is 82 students, showed no interest in pursuing a bachelor’s degree and the remaining 1%, a total of 3 students did not answer the question.

In this part of the survey, students were asked why or why not they should have a degree, some of them responded that if they were interested in continuing their studies through one of them, as an opportunity to get a good future, but at the same time others were not interested in pursuing a bachelor's degree because they had an interest in engineering or simply they do not wish to continue their studies once they graduated from high school.



**Figure 1 Once You Graduated from High School, Would You Like to Study A Bachelor's Degree?**

In Figure 2, where they were asked in which university they are going to continue their studies, 28% representing 98 students decided to do their studies in bachelor's degree at UNISIERRA, 56% representing 195 students, decided as the first option to study another university in the state, and 10% with 34 students, preferred to study in an institution outside the state and the rest with 6% did not answer the question, that is, the vast majority of students belonging to the fifth high school semesters have made their first option to start their studies in other universities of the state.

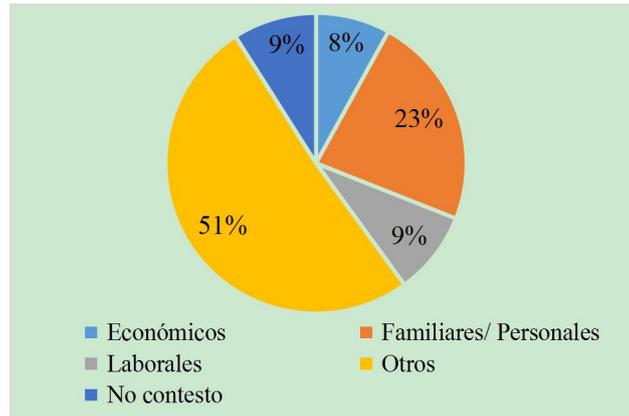


**Figure 2 Where Would You Study to Get Your Bachelor's Degree?**

To the question, what are the reasons why you would not study your degree at UNISIERRA, you can see figure three. The vast majority of students, specified as the first option that others were the factors that intervened to enroll at Universidad de la Sierra, however a total of 81 students out of 350 students surveyed, said the main factor came from family and personal matters, and with a minority of 9% and 8%, what is involved are economic and labor issues.

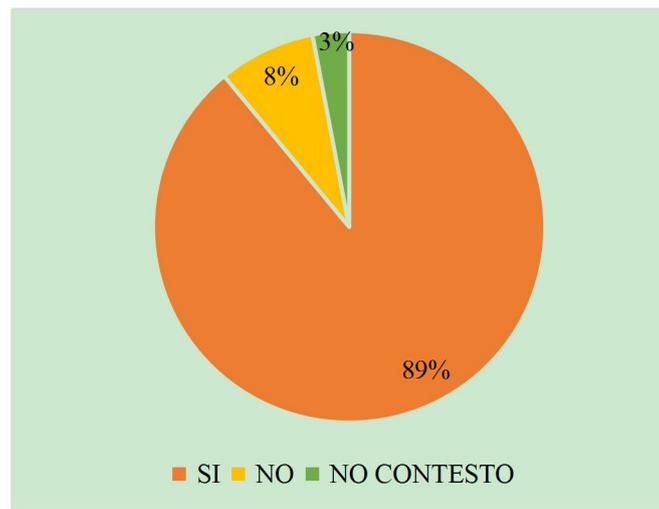
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**Figure 3 Why Wouldn't You Study a Bachelor's Degree at UNISIERRA?**

When asked if they agreed that a bachelor's degree in Agricultural Administration was offered at UNISIERRA, you can see in Figure 4, the different answers, where most students are in favor that out institution has the proposed degree, only 29 students out of 350 respondents, are not interested in the opening of the new career and the 3% did not give an answer.



**Figure 4 Would You Agree If UNISIERRA Offered a Bachelor's Degree in Agricultural Administration?**

In Figure 5, they were asked if a Bachelor's Degree in Agricultural Administration was offered at UNISIERRA, would you enroll? Of a total of 350 fifth-semester students from the aforementioned high schools that were surveyed, 236 students would not apply to study the new career, but we have at least 100 that would apply for the new career.

In this section, students were asked why or why not they would like to enroll in the new Bachelor's Degree in Agricultural Administration, which some responded that it was not of their interest, likes or simply they did not like UNISIERRA or the place in where it is located, due to the region.

In the same way, we ask the question, in case you are not interested in this Degree, what other options would you like to be offered in Unisierra? Their answers can be seen in figure six.

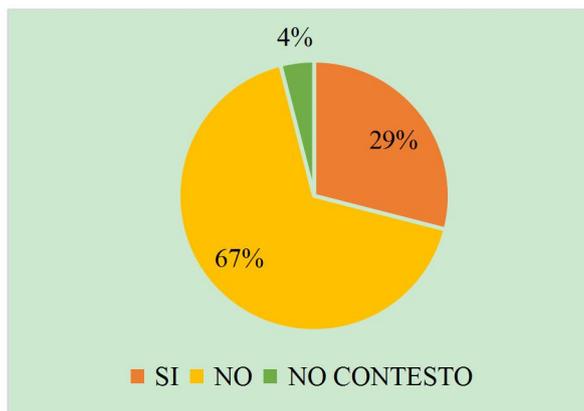


Figure 5 If A Bachelor's Degree in Agricultural Administration Was Offered at UNISIERRA, Would You Enroll?

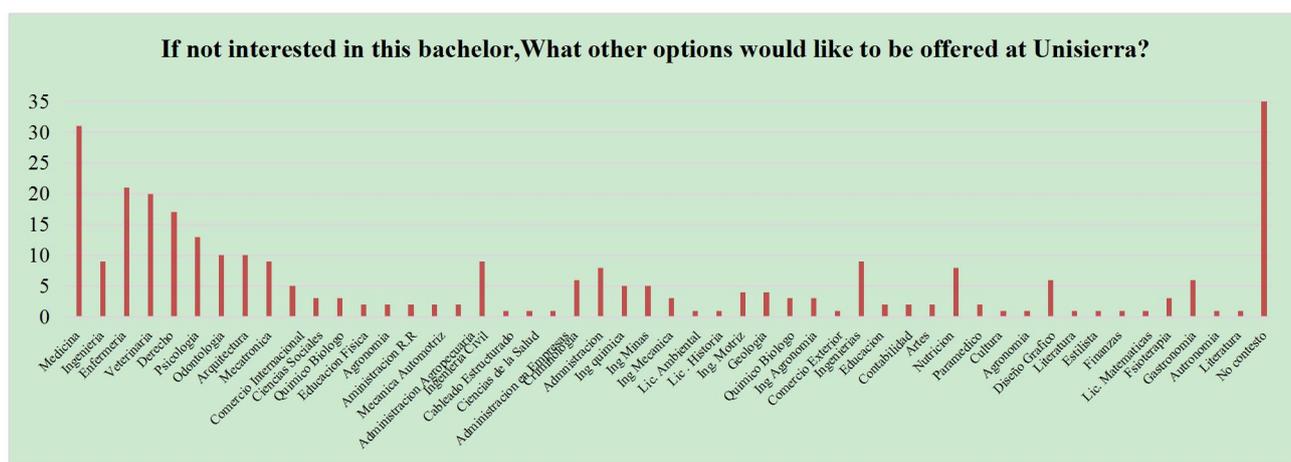


Figure 6 What Other Options Would You Like to Be Offered at Unisierra?

## 5. Conclusion

The University has been a necessary measure, among many others, to boost the economic, social, cultural and educational revival of this region. In addition, there is great potential for the use of natural resources and development of people living in these places, since this was only achieved with support from other regions or people who came from other places and sometimes people who were born in Moctezuma or that are bonded to this municipality and reside in the United States of America for work reasons, but who care about their homeland.

However, the rural sector and the mountain area of the state has had a considerable decline in the last decades, reflected in a population decline caused by the emigration of its inhabitants in search of better opportunities for personal development.

This has not been all, the above has generated an educational and economic lag, so there is great difficulty for young people in that region to study or have a higher education available to everyone. In addition, the roots in family agricultural production have contributed negatively to the young people in this region in not continuing their education, in many cases, beyond secondary or basic education.

Therefore, the importance of the university as an institution is to contribute to the local development of the municipalities; Universidad de la Sierra is not exempt from this process. Hence the importance of having a good relationship with local governments and together implement social, economic and cultural programs that help the

development of the regions.

That is why it is necessary to implement strategies that derive from measurable plans and that have direct impact on the social and economic transformation of the different producers in the region. Universidad de la Sierra through its teaching staff and students can focus their various projects according to the strategies that are proposed, so that each of them means meeting specific objectives.

By designing a new career at Universidad de la Sierra, it will get greater advantages than other universities, since the new Bachelor degree will develop in a suitable field of work, due to the region, it will allow our students to relate to the agricultural and livestock environment, being able to interact with it.

### **References**

- Anuario Estadístico de las ANUIES (2000). *Programa de Ampliación de la oferta de Educación Superior 2002* de la SEP, SESIC, México
- Arias F. (2006). *Introducción a la Metodología Científica* (5th ed.), Venezuela: Episteme.
- Blanco A. (2007). *Formulación de Proyectos* (6th ed.), Caracas: Editorial Universidad Católica Andrés Bello.
- Coronado M. (2011). *Pertinencia Social de la Formación en el Nivel Superior A partir de las Creencias de Empleadores, Profesores y Students de la Universidad de la Sierra*, Universidad del Valle de México.
- Guerrero J. (2003). *Calidad en la Educación, Organizaciones y Ejercicio Profesional*. México D.F: Alternativas en Psicología.
- Hernández S. R., Fernández C. C and Baptista L. P. (2010). *Metodología de la Investigación* (5th ed.), México: Mc Graw Hill.
- Ibáñez B. C. (1994). *Pedagogía y Psicología Interconductual*, México D.F.: Mexicana de Análisis de la Conducta.
- Kantor J. (1990). *La evolución científica de la psicología*, México D.F.: Editorial Trillas.
- Richard. (2000). *Marketing*, México.: Editorial: Mc Graw-Hill.
- Rodríguez Gómez R. (1999). "La educación superior en el siglo XXI ANUIES", available online at: [http://publicaciones.anuies.mx/pdfs/revista/Revista113\\_S5A2ES.pdf](http://publicaciones.anuies.mx/pdfs/revista/Revista113_S5A2ES.pdf).
- Sapag N. (1995). *Preparación y Evaluación de Proyectos*, Santafé de Bogotá: Mc Graw Hill.
- United Nations Education, Science Culture Organization (1998). *La educación superior en el siglo XXI: visión y acción*, Paris: UNESCO.
- Universidad de la Sierra (2016). *Programa de Desarrollo Institucional*, De la Universidad de la Sierra.
- Varela R. (2001). *Innovación Empresarial*, Bogotá.: Editorial Prentice Hall.