



Diagnosis of Linking Activities of the Faculty of Agricultural Engineering of Universidad Tecnica de Manabi



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Article history:

Received: 10 November 2016

Accepted: 30 March 2017

Published: 31 May 2017

Keywords:

educational project;
evaluation indicators;
linkage projects;
self-assessment career;
society career;

Abstract

The aim of the study is to determine the contribution of universities to the development of society through linkage projects carried out by students of the Faculty of Agricultural Engineering at the Universidad Técnica de Manabí. At work, the results achieved in the institutional evaluation and self-assessment racing related indicators linking with society and offered projects are identified by the career of Agricultural Engineering in the period of the past five years are analyzed. Later a survey was applied to communities to determine their needs are the same, in order to compare the offered with the defendant and propose improvements in the process. The results of the survey of the communities show that some of the defendant's themes have not been offered so not being met community needs. As a result of this diagnosis strategy that support the continuous improvement of the process of linking with society career of Agricultural Engineering, Universidad Técnica de Manabí and contribute to social and economic development of the territory they are proposed.

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1. Introduction

The link with society is considered a transfer of knowledge in academic domains, to meet the needs and solve problems of their environment in order to generate development.

Armas *et al.*, (2015), the activities of association with the community aim at the training of high-level professionals and research, higher education institutions must interact with other actors in Ecuadorian society through the provision of specialized services such as continuing education, counseling and consulting, related With local, regional and national development.

The agricultural engineering career of the Technical University of Manabí (UTM) should contribute to the development of local and national communities through activities through different actions and practices of training the professional profile of the agricultural engineer related to the agricultural development of the Manabí field and contribute In this way in the approach of alternatives of solution that benefit the majorities.

In order to fulfill this task, it is necessary that there be a coordinating entity that manages in an integral way in the career and university the projects of linking being permanently and effectively involved with the beneficiary communities, coordinators of the linking commission, teachers responsible for each project and students.

Avilés (2016), the Organic Law of Higher Education (LOES) of Ecuador establishes in article 12 the principles that will govern the higher education system in an integral way, and article 13 of the same legal body, contains the functions of the system, especially the literal a, where It is established that it is a function of the system: "To guarantee the right to higher education through teaching, research and its links with society, and to ensure increasing levels of quality, academic excellence and relevance".

For this reason, all Ecuadorian universities are subject to a continuous evaluation system in order to guarantee the quality levels and thus the development of society in general.

del Ecuador & Oficial (2010), the Council of Education, Accreditation and Quality Assurance of Higher Education (CEAACES), in accordance with articles 93, 94 and 95 of the Guzmán Salazar (2005), Romero Cantos (2012), Organic Law of Higher Education, has defined the institutional evaluation model considering the complexity of the concept of quality And the characteristics of the Ecuadorian higher education system.

The proposed objective is: to determine the contribution of the university to the development of society through the linkage projects carried out by the students of the Faculty of Agricultural Engineering of the University Universidad Técnica de Manabí

2. Materials and Methods

The recent research carried out at the university was used for the development of the theoretical framework with the aim of being evaluated by the higher body, in addition, to reviewing related documents used in the process and documents from other universities. The research is of the document type and has a qualitative approach since it analyzes a reality of what happens in the evaluative process, being of an exploratory type because an analysis of the teaching processes and their quality is done where other research could be carried out Different levels of teaching with new conclusions.

A group of techniques were used, among which are: the survey to obtain results that confirmed the veracity of the objectives proposed in the research; The bibliography that allowed to give greater scientific relevance to the theoretical part of the investigation; The analytic that was applied to make an exhaustive evaluation of the results and the statistics that served to graph the results of the work.

3. Results and Discussions

Rosas *et al.*, (2011), the process of institutional evaluation is analyzed to find the main deficiencies in the work of institutions of higher education. For this purpose, the results of the evaluation of the Technical University of Manabí were used. Once completed the process of external institutional evaluation of the Technical University of Manabí in 2013, category C was obtained and the lowest criteria in that evaluation were: Research and Organization. In relation to the linkage variable, an indicator of the organization criterion, in a sample of 82 linking projects, 18 were accepted, while 64 (78%) did not meet the parameters required in the evaluation of the year 2013.

In the evaluation of 2015, the criterion related to the community was formed by planning of the linkage, the management of resources for the linkage and the programs and projects of linkage.

The planning of the linkage is the responsibility of the institutional planning area and is evaluated through the Institutional Development Strategic Plan (PEDI) and the Annual Operational Plan (POA) of the institution obtained a satisfactory rating. The management of resources for linking for not having a specific budget allocation for the linking projects obtained a moderately satisfactory rating. In the programs and projects linked to a multifactorial diagnostic study of the rural parishes of the Portoviejo canton and the river basins of the Chone and Portoviejo rivers and evaluating the complete execution of the projects for the years 2014 and 2015, the qualification was satisfactory (CEAACES, 2016). EL (1998), it should be noted that both the planning and development of the research projects carried out by the faculty do not tax the planning and execution of the linking projects because these activities are carried out individually, as there are no control and direction mechanisms that Adequately integrate these activities and interest groups

Research is a very important aspect in the execution of the linkage projects, as it offers tools and methodologies suitable for implementation. The interrelation of research and linkage strengthens both processes, facilitates the optimization of the resources of the institution and benefits the communities of the territory. The process of self-evaluation of the career is assigned to the Internal Evaluation Committee, which has the responsibility to present the evidence on the following criteria: Relevance, Curricular Plan, Academy, Institutional Environment and Students as established by CEAACES in its generic model for Career self-assessment. Flores & Rivas (2012), the Linking variable is evaluated in the relevance criterion.

The Faculty of Agricultural Engineering each year updates the evidence of the Self-evaluation process for the accreditation of the race and categorization of the Universidad Técnica de Manabí.

In 2013, in the Relevance criterion where the Linking variable is found, only 50% of the total information requested in the self-assessment of the race in 2013 was collected Starting in 2014, the career self-assessment system was modified to a qualitative evaluation whose results are shown to be relevant. In table 1, shows the results of the self-evaluation of 2014 shows the summary of the results of the indicators associated with the association with the company belonging to the criterion relevance.

Table 1
Results of the 2014 self-assessment

Sub-criterion	Indicator	Type of Variable	Standard value 2014	Self-evaluation value 2014
Contexto	A.1.1. Estado actual y prospectiva	Cualitativa	Satisfactorio	Satisfactorio
	A.1.2. Programas / Proyectos de Vinculación con la sociedad	Cualitativa	Satisfactorio	Satisfactorio
Profesión	A.2.1. Perfil Profesional	Cualitativa	Satisfactorio	Poco Satisfactorio

Prepared by: The Internal Evaluation Committee of Race 2014

As can be seen, self-evaluation improved in 2014, obtaining an acceptable grade, but not enough for the faculty to reach the level of planned impact in the realization of the linkage projects and the accreditation of the same. The self-evaluation of the year 2015 is in the process, so far only the evidence has been uploaded to the computer system, and there is still pending verification and on-site visits by external peer reviewers. As a result of the analysis carried out it can be affirmed that relevance was one of the lowest criteria qualified in the self-evaluation of the Agricultural Engineering career of the years 2013 and 2014 and its deficiencies are summarized below:

- a) Weaknesses in the management of linkage projects
- b) Lack of project assignment to students and teachers responsible for projects
- c) Lack of articulation in the planning of projects linked to research lines and links with the community.
- d) Little systematicity in the evidence and documentation of the linking projects
- e) The impact of linking projects is not analyzed
- f) There is no characterization of the area and lack of knowledge of the needs of study communities

According to the institutional self-evaluation in relation to the linking projects, of the 53 projects carried out in the last four years in the Faculty of Agricultural Engineering, 80% did not comply with the requirements stipulated by the

Vera, T. V. M., Vivas, F. E. V., Triana, S. M. F., & Mero, T. B. B. (2017). *Diagnosis of linking activities of the faculty of agricultural engineering of Universidad Tecnica de Manabi. International Research Journal of Management, IT and Social Sciences*, 4(3), 61-67. <https://sloap.org/journals/index.php/irjmis/article/view/467>

evaluating institution. Table 2 shows the classification of the linking projects of the Faculty of Agricultural Engineering which shows the behavior of the projects of the faculty in the years 2011 to 2015.

Table 2
Classification of the linking projects of the Faculty of Agricultural Engineering

Types of Projects	2011	2012	2013	2014	2015	Total	%
Implementation	3	1			3	7	13,20
Intervention		1				1	1,88
Technical assistance	3	1				4	7,55
Training	2	7			1	10	18,87
Training and Technical Assistance			24	5	2	31	58,49
Total	8	10	24	5	6	53	100

At the planning stage, the linking projects implemented by the faculty in 2011, 2012, 2013, 2014 and 2015 were classified as follows: implementation, training, technical advice, and intervention, as shown in Table 3. Classification of linking projects of the Faculty of Agricultural Engineering, technical assistance, training, and technical assistance projects constitute 84.91% of the total of the sample, while the implementation and intervention projects represent only 15.08%.

With the objective of verifying if the projects that offer the race are those that the communities demanded a survey was carried out, the question that answered said questioning was the following: Which activities or projects would you like that the linking of the Faculty of Engineering Will you do in your community? , In figure 1 it is noted the themes of the projects demanded by the beneficiary communities show the representativeness of each theme in the demands of the communities

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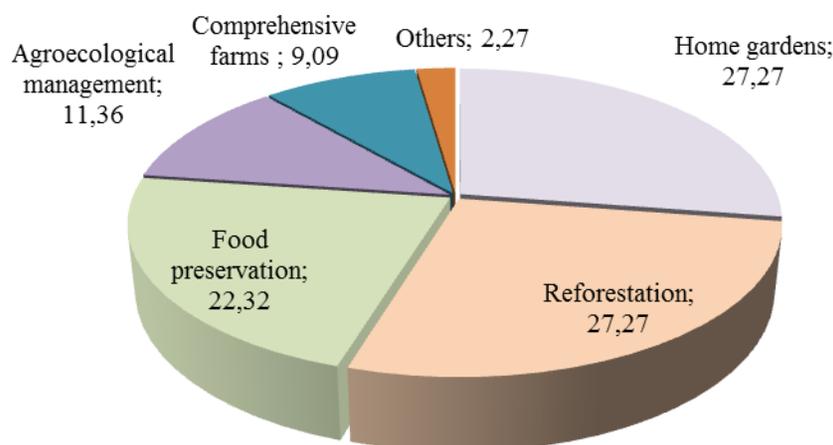


Figure 1. Themes of the projects demanded by the beneficiary communities

The most preferred projects were: orchards, integral farms, reforestation, and food preservation, projects classified by the Higher Education Institutions (IES) linkage as implementation projects and, Agricultural products and other

corresponding training of seedlings, considered as training projects. The results were as follows: 11.39% corresponds to training and 88.61% were implemented. This result shows that the demand is opposite to the projects offered by the Faculty of Agricultural Engineering in the last 5 years. The projects that the faculty has carried out are classified according to the thematic demands and the results are shown in Table 3. Thematic themes are projects demanded by the beneficiary communities.

Table 3
Projects offered by the faculty

Temática	Cantidad
Huertos familiares,	7
Reforestación	3
Manejo agroecológico	6
Creación de semilleros	2
Sistema de riego	12
Transferencia tecnología	17

The table shows that some of the themes demanded by the community have not been offered by the faculty, such as; Food preservation, seedlings, and integrated farms. In view of the foregoing, it is necessary to establish a management system that ensures that the linking projects that run the Agricultural Engineering career generate the planned impact that benefits both the Agricultural Engineering career and the community.

The planning of the projects must be carried out jointly with the community to analyze the objectives and their level of impact in order to contribute to the generation of autonomy in the processes as indicated in the Organic Law of Higher Education, It is necessary to contribute to the improvement of the sub-variable linkage projects constituting a basic tool for the accreditation of the career and for the institutional evaluation of the Universidad Técnica de Manabí.

It is important to note that linking projects and programs have improved considerably but not enough to increase the planned impact since there is a divorce between research lines, linking projects and the needs of the population for the lack of a system that Address these actions as evidenced and contrasts the surveys conducted and the analysis of the linkage projects that the faculty has done in the last five years.

Due to the foregoing, it can be said that the inadequate management of the linking process carried out by the faculty of agricultural engineering does not contribute to the satisfaction of the needs of the communities of the parishes of Colón and Lodana in the cantons of Portoviejo and Santa Ana the province of Manabí

4. Conclusion

- As a result, the separation between the research lines, linkage, and needs of the population was obtained due to the lack of a system that directs these actions, due to the lack of organization and direction in the process of linking with the community, which also does not satisfy The needs of the community, there is a lack of comprehensive planning that involves all the beneficiaries.
- There is ignorance of the needs of the communities under study, evidencing that some of the themes demanded by the community have not been offered by the faculty, such as food preservation, seedlings, and integral farms.

Conflict of interest statement and funding sources

The author(s) declared that (s)he/they have no competing interest. The study was financed by UTM.

Statement of authorship

The author(s) have a responsibility for the conception and design of the study. The author(s) have approved the final article.

Acknowledgments

We thank the directors of the University for their Financial Support to carry out the research project.

References

- Armas, E., Fernanda, M., & Santacruz González, J. M. (2015). *Plan de comunicación para la unidad de prácticas y vinculación con la sociedad de la carrera comunicación social de la Universidad Politécnica Salesiana sede Quito*(Bachelor's thesis).
- Avilés, G. T. (2016). Impacto de las Nuevas Políticas de Educación Superior en las Universidades y Escuelas Politécnicas del Ecuador. *Revista Empresarial, 10*(2), 28-34.
- del Ecuador, G., & Oficial, R. (2010). Ley orgánica de educación superior. *Quito, Ecuador*.
- EL, M. D. A. P. P. (1998). Declaración mundial sobre la educación superior en el siglo XXI: visión y acción.
- Flores, J. C. D., & Rivas, R. S. D. P. (2012). ¿ Control de gestión o gestión de control?. *Contabilidad y Negocios: Revista del Departamento Académico de Ciencias Administrativas, 7*(14), 69-80.
- Guzmán Salazar, M. I. (2005). Sistema de control de gestión y presupuesto por resultado: la experiencia chilena.
- Romero Cantos, V. G. (2012). *Evaluación de desempeño docente de la carrera de Educación Primaria, modalidad semipresencial, centro cantón El Triunfo de la Facultad de Filosofía, Letras y Ciencias de la Educación de la Universidad de Guayaquil* (Master's thesis, Universidad de Guayaquil. Facultad de Filosofía, Letras y Ciencias de la Educación).
- Rosas, L. S., Barrios Osuna, I., & Espíndola, M. E. G. (2011). Metodología para la evaluación externa de la carrera de Estomatología. *Infodir (Revista de Información para la Dirección en Salud), 7*(13).

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