



Agronomía Colombiana

ISSN: 0120-9965

ISSN: 2357-3732

Universidad Nacional de Colombia, Facultad de Agronomía

Landini, Fernando

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Agronomía Colombiana, vol. 38, no. 1, 2020, January-April, pp. 133-147

Universidad Nacional de Colombia, Facultad de Agronomía

DOI: <https://doi.org/10.15446/agron.colomb.v38n1.81738>

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What does 'quality' mean in the context of rural extension and advisory services?

¿Qué significa 'calidad' en el contexto de la extensión rural y los servicios de asesoramiento técnico?

Fernando Landini¹*

ABSTRACT

The quality of rural extension and advisory services is a crucial element in fostering innovation and rural development. This article aims to clarify the concept of quality of rural extension and to develop a preliminary theoretical framework. An ample literature review was conducted in search of articles on service quality and quality of rural extension and advisory services. The first part presents the main results of the literature search on quality of extension services. The definition of quality is not universal. Quality cannot be conceptualized only as farmers' satisfaction or as extension results. It has different dimensions or components and stakeholders have different points of view about it. The second part of this article discusses the definition of service quality and the concept of Total Quality Management and underlines that the concept of quality varies according to industry types or contexts and is the result of complex negotiation among different stakeholders. Finally, a comprehensive theoretical framework for addressing quality of rural extension and advisory services is presented that differentiates among enablers that limit or facilitate the delivery of quality rural extension and advisory services, the production and delivery processes, and results obtained. Here, the key role played by quality self-assessment and organizational learning is highlighted.

Key words: agricultural extension, total quality management, rural development, institutional learning.

RESUMEN

La calidad de los servicios de extensión rural y asesoramiento técnico es fundamental para impulsar procesos de innovación y desarrollo. Este artículo busca clarificar el concepto de calidad de la extensión rural y desarrollar un marco teórico preliminar. Se realizó una amplia revisión bibliográfica sobre la calidad de los servicios y de la extensión rural. La primera parte presenta los principales resultados de la revisión sobre calidad de la extensión: su definición no es universal, no puede ser conceptualizada únicamente ni como satisfacción de los productores ni como resultados de extensión, posee diferentes dimensiones o componentes, y los actores tienen diferentes visiones sobre ella. La segunda parte discute la definición de calidad de servicios y el concepto de Gestión Total de la Calidad y destaca que el concepto de calidad varía según el contexto y el sector productivo, siendo el resultado de complejos procesos de negociación entre diferentes actores. Finalmente se propone un marco teórico completo para abordar la calidad de los servicios de extensión, el cual diferencia entre facilitadores que hacen posible o que limitan la prestación de un servicio de calidad, el proceso mismo de producción y prestación del servicio, y los resultados obtenidos. Se destaca el rol clave que juegan la autoevaluación de la calidad y el aprendizaje organizacional.

Palabras clave: extensión agrícola, gestión total de la calidad, desarrollo rural, aprendizaje institucional.

Introduction

During the last 20 years, different scholars and rural development institutions have progressively paid more attention to the importance of the quality of advisory services provided by rural extension institutions (Israel, 2010; Issa and Issa, 2013; Garst and Franz, 2014; Herman and Grant, 2015; Castaño-Reyes *et al.*, 2017). There are several, intertwined reasons that may help to explain this process. First, in the context of the pressures towards the privatization of rural extension and advisory services (RE&AS) that

began in the 80s, concepts such as 'quality' and 'cliente' that have been traditionally linked to the world of private companies (Fredendall and Lippert, 1995) became notions that could be applied to rural advisory services, now framed in market terms (Turkson, 2009; Anaza *et al.*, 2012). Second, pressures towards privatization, coupled with a questioning of the lack of evidence for the impact of RE&AS, made clear the need for evaluating the results and quality of the services provided to present them to funding agencies or institutions in order to keep up a steady flow of resources (Diehl *et al.*, 2012; Lamm *et al.*, 2013; Franz *et al.*, 2014).

Received for publication: 19 August, 2019. Accepted for publication: 13 April, 2020

Doi: 10.15446/agron.colomb.v38n1.81738

¹ Consejo Nacional de Investigaciones Científicas y Técnicas (CONICET) y Universidad de la Cuenca del Plata, Posadas, Misiones (Argentina).

* Corresponding author: landini_fer@hotmail.com



Finally, more recently the rise of demand-driven extension approaches (Qamar, 2011; Masangano *et al.*, 2017) as well as acknowledgment of the value of accountability to clients in the context of RE&AS (Galindo and Israel, 2010; Sseguya *et al.*, 2012) also supported the ‘market framing’ of the extension practice (Christoplos, 2008). This encouraged the evaluation of the clients’ (i.e., farmers’) satisfaction with RE&AS, since it was considered to be a synonym for service quality (e.g. Fredendall and Lippert, 1995; Terry and Israel, 2004).

In the context of the great importance widely assigned to the quality of RE&AS in the scholarly literature as well as in institutional practices, the concept of quality of RE&AS as well as the strategies to evaluate that quality would be expected to be a fundamental topic of debate in extension science. However, most academic bibliography tends to use the concept superficially, implicitly assuming common-sense definitions when referring to the importance of or the need for improving RE&AS quality (e.g. Danielsen *et al.*, 2013; Garst and Franz, 2014; Myeni *et al.*, 2019). Furthermore, even when the concept of quality of RE&AS is explicitly addressed, the term is usually vaguely defined; or the paper is lacking a proper discussion of what quality is in the context of RE&AS (e.g. Benin *et al.*, 2007; Feng *et al.*, 2007; Dunne *et al.*, 2019). Most importantly, works aimed towards increases in RE&AS quality cannot be based on unclear, vague or decontextualized definitions and conceptualizations of the term; and it is apparent that increasing the quality of RE&AS implies increasing its potential to improve farmer productivity and promote rural development.

Thus, it is clear that the concept of quality has gained greater relevance in the context of RE&AS. However, the term “quality” has been neither properly discussed nor properly defined. The objectives of this review article are: (1) to explore and clarify the concept of quality used in RE&AS academic and institutional literature, pointing out the main limitations; (2) to present the key elements of the current debate on service quality and quality management in order to address such problems; and (3) to develop a preliminary theoretical framework to define quality of RE&AS and to guide the implementation of actions aimed at improving it.

Literature review

In order to meet the objectives of this article, I conducted a two-step literature review. Firstly, I used the descriptors ‘quality’ + ‘[rural/agricultural] extension’ and ‘quality’ +

‘advisory services’ (and their equivalents in Portuguese and Spanish) to search for relevant literature in EBSCO, SCIELO and DOAJ databases, and in websites of relevant institutions such as the Food and Agriculture Organization of the United Nations (FAO), the Global Forum for Rural Advisory Services, and the Inter-American Institute for Cooperation on Agriculture. I read the selected texts and identified the main topics of debate.

Secondly, I used the same databases to search for literature on topics acknowledged as relevant during the previous review, including ‘service quality’, ‘quality management’, ‘quality standards’, ‘EFQM [European Foundation for Quality Management] Excellence Model’ and ‘ISO 9000’. In this case, articles were analyzed and relevant topics for addressing quality of RE&AS were selected.

The following titles summarize the main topics identified during the literature review.

Quality in RE&AS current literature

On the definition of rural extension and advisory services

In this paper, I follow the standard definition used by Christoplos (2010) in the context of the Food and Agriculture Organization of the United Nations (FAO). He defines ‘extension’ as an admittedly amorphous umbrella term for all the different activities that provide the information and advisory services that are needed and demanded by farmers and other actors in agrifood systems and rural development. Thus, the author defines rural extension as an ‘umbrella term’ and gives advisory services a central role. In English, the concepts of ‘rural/agricultural extension’ and ‘advisory services’ are frequently used as synonyms, with the frequency of the use of one or the other depending on the context and the country. Following this common use, both concepts are used as synonyms in this paper.

Quality with regards to RE&AS: Quality of what?

When addressing RE&AS quality it is essential to be clear about the quality of which aspects, practices, or services we are referring to; because RE&AS involve different activities and, thus, an inaccurate use of the term may lead to confusion. For instance, Issa and Issa (2013) seem to refer indistinctly to the quality of the extension personnel and the quality of extension services. In general, when addressing RE&AS quality, most authors refer to the quality of rural extension/advisory services in general (e.g. Lamm *et al.*, 2013; Anik and Salam, 2015; Jona and Terblanché, 2015; Elahi *et al.*, 2018). Nonetheless, there are also other two, frequently mentioned, aspects of quality with regards

to RE&AS. Firstly, there are several authors who focus on the quality of extension programs (Garst and Franz, 2014; Singletary *et al.*, 2016), and not on RE&AS as a whole. On the other hand, other scholars pay attention to the quality of extension agents (Sarker and Itohara, 2009), that is to the quality of the human resources that provide RE&AS.

When analyzed in depth, it is clear that service quality, program quality and advisors' quality (among other alternatives) are different aspects, dimensions, or components to consider when addressing quality in the context of RE&AS. What's more, as they comprise different aspects of RE&AS quality, the indicators that ought to be used to assess them should also be different. Thus, the need to clarify the quality of what we are talking about when addressing quality in the area of RE&AS becomes apparent. Finally, in general terms, the most common reference to quality in this context (and arguably the one with the most practical potential) seems to be service quality, which takes into consideration RE&AS practices as a whole.

Quality as clients' satisfaction or as results?

Having analyzed what aspects of the quality of RE&AS can be addressed, it is now time to discuss what quality means in this context. In order to do so, from now on, the focus will be on RE&AS quality (this is, service quality). In RE&AS academic literature, there are different ways of defining service quality. However, two of the most common definitions are as clients' satisfaction or as extension results.

Many scholars consider (explicitly or implicitly) quality to be farmers' satisfaction with the extension service (e.g. Benin *et al.*, 2007; Issa and Issa, 2013; Singletary *et al.*, 2016). In this way, farmers and their expectations and wishes define what quality is. However, despite the importance of valuing farmers' perspectives, considering their satisfaction as the core aspect of service quality has limitations.

Firstly, Fredendall and Lippert (1995) argue that such an approach is characteristic of private businesses focused on making profit and building customer loyalty. Nonetheless, it is clear that the goals of RE&AS go beyond those that frame market logic (Sulaiman and Davis, 2012; Vicher, 2012), such as reaching public goods (Rivera and Alex, 2004; Franz *et al.*, 2014; Baig *et al.*, 2019), like for instance environmental conservation. Thus, it is clear that, although farmers' (or other clients') satisfaction may (and should) be considered *as part* of service quality, it cannot be its only or foremost dimension.

Secondly, several authors have argued that low-income communities that have no access to certain services tend

to be highly satisfied with them even when they are considered of low quality by other types of clients or from a technical point of view. For instance, Comes and Stokiner (2004) have shown that poor women are highly satisfied with having access to health care even if they have to wait several hours to obtain it. In this line, López and Pérez (2014) differentiate between perceived and real quality, pointing out that the former is framed by expectations and these can be unrealistic (very low or very high) when people have no knowledge or experience of different alternatives as occurs with underprivileged social sectors. According to Landini (2016a), farmers should be informed of the different extension service alternatives to allow them to identify what they really want. Thus, using farmers' satisfaction to properly evaluate service quality would require a prior knowledge (or even joint development) of different extension service alternatives, even those that are not available, which is almost never considered when assessing farmers' satisfaction.

The third argument addresses the fact that farmers' expectations and satisfaction may not coincide with (and may even be contrary to) other extension goals or social values that are considered superior or at least equally valuable, particularly in the case of publicly funded RE&AS. What if clients are satisfied with RE&AS but these are not racially equitable, do not support gender equity, or go against key social values or institutional objectives? Or if they are unsatisfied but extension services are in line with institutional priorities and goals? In consequence, farmers' satisfaction should not be considered as the key aspect of service quality, but simply as one element that, combined with others, shapes what quality extension service is (e.g. Danielsen and Kelly, 2010; Rodríguez-Espinosa *et al.*, 2017).

Fourthly, in the previous argument the focus was on farmers' satisfaction. However, why not consider the satisfaction of other relevant actors? Within RE&AS literature, Fredendall and Lippert (1995) highlight that extension institutions have external (farmers) and internal customers, the latter generally comprises extensionists, given that they are clients of internal processes. Why should not extensionists' satisfaction be considered as part of the quality of extension services? According to different authors (Archer *et al.*, 2007a, 2007b; Castaño-Reyes *et al.*, 2017; Rodríguez-Espinosa *et al.*, 2017) excellence criteria in extension should be meaningful for a variety of stakeholders, and not only for farmers. In this line, it is debatable that, even when extension service quality is understood in terms of satisfaction of expectations, only farmers' satisfaction is taken into consideration, and not that of a wider range of actors.

Fifth, in the case of RE&AS, where scientific knowledge is at stake, addressing quality only in terms of farmers' satisfaction would seem to be a limited approach. Danielsen and Kelly (2010), besides valuing clients' satisfaction, propose that technical quality should also be included when developing quality criteria. It could be argued that technically incorrect advice would not lead to clients' satisfaction, but when advice implementation results are unclear due to the entanglement of multiple factors, addressing technical quality directly seems to be preferable.

The second most common frame for understanding extension service quality is assimilating it for reaching desired results (Mueller, 1991; Birner *et al.*, 2009; Faure *et al.*, 2012). In this context, some authors tend to highlight the importance of extension impact (e.g. Herman and Grant, 2015). However, others are more cautious, arguing that impacts such as adoption of technologies yield increase and, even more, poverty reduction are the result of multiple factors, with RE&AS only being one among others (Benin *et al.*, 2007; Birner *et al.*, 2009). Thus, they tend to assess quality in terms of extension performance as an indicator of results (Rivera and Alex, 2004; Danielsen *et al.*, 2013).

With regards to quality as results, there are issues that deserve discussion. Firstly, assimilating extension quality into results leads to the question of deciding which results are to be considered as RE&AS quality. Depending on the extension approach, expected results are different, ranging from technology transfer to fostering innovative processes (Leeuwis and Aarts, 2011; Landini, 2016b). What's more, different stakeholders expect different results. For instance, Christoplos *et al.* (2012) have argued that farmers and the general public (the society as a whole) may have different goals with regards to environmental issues. Likewise, Sayeed *et al.* (2015) point out that governmental authorities may be more interested in reaching objectives such as food security, compared to the ones preferred by farmers (for instance increasing monetary income). Thus, it is clear that different stakeholders may and will have different extension objectives. Acknowledging this, scholars have suggested the construction of quality indicators in a participatory way, taking into account the perspectives of extensionists, policymakers, farmers, and other relevant stakeholders (Archer *et al.*, 2007a, 2007b; Birner *et al.*, 2009; Landini and Bianqui, 2018). Nagel (1997) states that extension approaches are presented in terms of their most important organizational forms and their respective goals. The goal system reflects the power positions of various groups of actors. Thus, if extension quality is going to be understood in terms of its capacity to reach desired results,

then the power dynamics underlying the equilibrium or the compromise between different stakeholders' objectives should be acknowledged.

The second main issue when addressing RE&AS quality as results has to do with the relationship between the means and the ends, that is, quality procedures versus quality results. Clearly, the capacity to reach desired results is a sign of RE&AS quality. When analyzing high impact extension programs, Mueller (1991) pays particular attention to the 'roots [...] linked to desired outcomes', which refers to the processes that allow for those results to be reached. As argued previously, the technical quality of extensionists' advice cannot be considered in and by itself a goal but instead as a way of reaching good results (Danielsen and Kelly, 2010). Likewise, there are also means such as extension strategies or approaches linked to specific values that seem to be part of extension quality but cannot be expressed in terms of results. Some examples are the implementation of culturally appropriated and socially inclusive interventions and the use of participatory processes or gender sensitivity (Trigo *et al.*, 2013; Krishna *et al.*, 2019). Thus, the quality of RE&AS cannot be reduced only to reaching desired goals but should also include socially acceptable interventions and technically pertinent recommendations.

Quality criteria and best practices in RE&AS

The RE&AS scholarly literature not only describes RE&AS quality in terms of clients' satisfaction and of reaching desired results. Authors mention a multiplicity of dimensions or quality components that are useful for widening our conception of service quality and that may also be used for assessing it. In this level, these dimensions are divided into two different categories: those referring to the quality of the advice and those that address extension service in general. Additionally, best/good practices in RE&AS are mentioned, given that they can also be helpful towards identifying quality processes in RE&AS.

Characteristics of quality advice: Characteristics that shape what quality advice is

1. The information provided by the adviser is technically accurate and up-to-date in scientific terms (Terry and Israel, 2004; Sarker and Itohara, 2009; Israel, 2010), and it is effective at accomplishing its objectives (increasing productivity, reducing diseases, etc.) (Turkson, 2009). Danielsen *et al.* (2013) describe this in terms of technical quality.
2. The advice is useful, relevant and effective in practical terms, for solving problems or reaching its objectives (Birner *et al.*, 2009; Faure *et al.*, 2012; Jona

and Terblanché, 2015; Ragasa and Mazunda, 2018; Dunne *et al.*, 2019). It is also feasible (Mueller, 1991; Lamontagne-Godwin *et al.*, 2017). The advice cannot be described as high-quality if farmers have no access to the required resources or do not have the necessary knowledge to put it into practice (Danielsen *et al.*, 2013).

3. The advice is easy to understand and use (Fredendall and Lippert, 1995; Israel 2010). It is practical and not too technical (Jona and Terblanché, 2015).
4. The advice is timely and is provided without unnecessary or excessive delays when needed (Benin *et al.*, 2007; Birner *et al.*, 2009; Danielsen *et al.*, 2013; Elahi *et al.*, 2018).

Broader characteristics of a quality extension service

Rural extension does not only involve providing advice to farmers. In the following list, the dimensions expressing quality of RE&AS that go beyond the characteristics of advice are presented.

1. Quality extension workers require establishing good interpersonal relationships with farmers and other stakeholders (Turkson, 2009). This involves treating people with respect (Sseguya *et al.*, 2012) and building trust with farmers (Landini, 2016c).
2. Extensionists' clientele have to participate in the planning, implementation and evaluation of extension programs (Archer *et al.*, 2007a). In this line, quality RE&AS require the incorporation of farmers' and other stakeholders' inputs in order to use them to design extension strategies and to keep beneficiaries informed about the implementation process as well as the results (Mueller, 1991; Christoplos *et al.*, 2012).
3. Quality extension service has to be culturally pertinent. That is, it must be respectful of local ways of life, acceptable in terms of people's customs, and even re-organized and based on the beneficiaries' cultural rationale (Singletary *et al.*, 2016).
4. Quality RE&AS do not only have to reach desired results but also be efficient (Birner *et al.*, 2009; Danielsen *et al.*, 2013). In general terms, this would imply that the benefits of the RE&AS are below its cost (Zwane and Groenewald, 2014).

Best practices and quality

Best practices in RE&AS refer to those extension practices or guidelines that have proven from experience to contribute to reaching better extension results. Although best practices have not generally been considered as being ways

of referring to RE&AS quality, the fact that they express the means to obtain desired results allows us to think of them in terms of process quality. Although many best extension practices have been proposed, only the most frequently used and the most useful for this context are presented.

1. Implementation of participatory, demand-driven extension approaches. There is considerable agreement in RE&AS that good extension services have to be participatory and structured by demand and not by supply (Trigo *et al.*, 2013; Akumu *et al.*, 2019).
2. Interdisciplinary approach. Traditionally, RE&AS have been considered a practice focused on technical expertise. Nonetheless, over the last decades, the complexity of rural extension has increased enormously (Leeuwis, 2004; Sulaiman and Davis, 2012). Thus, it is clear that obtaining good extension results requires involving practitioners with different social and technical backgrounds (Landini and Bianqui, 2014).
3. Gender-sensitive approach. Even nowadays it is common that RE&AS address mainly male farmers and do not acknowledge how gender influences farmers' practices. It is clear that women have a key role in agriculture and that extension practices have to be gender-sensitive and aimed towards gender equity (Quaye *et al.*, 2019).
4. Dynamic, bi-directional articulation between research and RE&AS in the context of agricultural innovation systems. Within the traditional extension approach, researchers develop technologies and extensionists transfer them to farmers. In contrast, the current understanding of innovation highlights the role of agricultural research and rural extension as part of agricultural innovation systems, in which different stakeholders reflect critically, learn together, and develop new strategies to face existing challenges (Moschitz *et al.*, 2015).
5. Flexibility and acknowledgment of diversity. The lack of flexibility of extension programs leads to multiple problems and poor results. Thus, extension programs have to both acknowledge diversity and take into consideration the specificities of particular contexts (Aguirre, 2012).

Evaluation of quality and RE&AS enhancement

One of the key topics when addressing RE&AS quality is quality improvement (Sseguya *et al.*, 2012; Sayeed *et al.*, 2015; Castaño-Reyes *et al.*, 2017). Taking into account the fundamental role of quality evaluation in this process, an

overview of the topic is going to be presented. Most evaluation processes mentioned in the academic literature linked to providing quality RE&AS are in the areas of customer satisfaction (Fredendall and Lippert, 1995; Galindo and Israel, 2010) and extension results, impact, or effectiveness (Lindner and Nieto, 1998; Christoplos, 2008; Birner *et al.*, 2009). Interestingly, both approaches should not be thought of as contradictory but as complementary (Terry and Israel, 2004).

Despite their importance, several authors have expressed concerns about the limitations of frequently used procedures for quality evaluation (Faure *et al.*, 2012). Some scholars have highlighted that performance assessment is often irregular and sparse (Danielsen *et al.*, 2013; Castaño-Reyes *et al.*, 2017) and that it usually pays more attention to the private value of programs than to public good (Franz *et al.*, 2014). Likewise, some scholars have drawn attention to the difficulty involved in evaluating RE&AS quality (e.g. Lamm *et al.*, 2013; Herman and Grant, 2015; Lamontagne-Godwin *et al.*, 2017). Different methodologies have been used to assess RE&AS quality. The most common one is the use of questionnaires and surveys specifically designed for impact and customer satisfaction evaluation in RE&AS (Lindner and Nieto, 1998; Galindo and Israel, 2010; Israel, 2013). Nonetheless, there are also reports of the use of general service quality measurement instruments, such as SERVQUAL (Feng *et al.*, 2007) or SERVPERF (Grinberga-Zālīte and Liepa, 2012). Additionally, other authors have mentioned participatory impact or quality assessments (Castaño-Reyes *et al.*, 2017) and the application of observational tools (Herman and Grant, 2015). Lamm *et al.* (2013) that highlight that quality evaluations tend not to assess behavioral changes.

Different authors underline the importance of RE&AS evaluation for quality improvement and institutional learning (Archer *et al.*, 2007b; Diehl *et al.*, 2012; Lamm *et al.*, 2013). However, most scholars do not address the process of how quality assessment results can turn into service quality improvements. In order to do this, Danielsen and Kelly (2010) highlight the significance of raising extensionists' awareness regarding quality improvement and stimulating critical reflection, while Herman and Grant (2015) suggest developing plans for improvement based on identified strengths and weaknesses. Nonetheless, the most common reference in this context is the use of a Total Quality Management (TQM) approach. TQM will be addressed more in depth later, when analyzing the quality management literature. However, it is worth mentioning that TQM focuses on customer satisfaction

and quality improvement and is commonly used in the context of private business; but TQM can also be adapted for improving RE&AS quality (Fredendall and Lippert, 1995; Lindner and Nieto, 1998).

Synthesis and key conclusions

Several interesting conclusions were reached after analyzing quality in RE&AS literature. These are summarized as follows:

1. The concept of quality within RE&AS has gained relevance but has not been properly discussed or clarified.
2. Equating RE&AS quality with farmers' satisfaction or with results has important limitations.
3. Different stakeholders' points of view (and not only farmers') have to be considered when assessing satisfaction with RE&AS and identifying which extension results are valuable.
4. Different stakeholders' expectations and goals regarding RE&AS may differ and even be contradictory. This implies that their assessment of service quality may be different, and that prioritizing the perspective of one stakeholder over another entails power struggles.
5. RE&AS definition of quality is neither general nor universal. What is considered quality within RE&AS will depend on the extension approach and the expected results.
6. Constructing RE&AS quality indicators requires participatory processes that take into account the perspectives of extensionists, policymakers, farmers, and other relevant stakeholders.
7. RE&AS quality entails both quality processes and quality results. Quality processes refer to aspects not necessarily considered within customers' satisfaction and extension results, such as equity of access or transparency in the use of resources.
8. Quality advice has to be technically accurate, useful, easy to understand and use, and timely.
9. RE&AS quality entails extension staff having positive attitudes towards people, involvement of beneficiaries, cultural pertinence, and efficiency.
10. From the perspective of the best extension practices, RE&AS have to adopt a participatory, interdisciplinary, gender-sensitive, horizontal and flexible approach.
11. Quality assessment is essential. Total Quality Management seems to be a useful strategy for quality improvement.

Quality and quality management in the current debate

Nowadays, the concept of quality is a central area of research and debate in the contexts of marketing, business, and many other disciplines. In this heading, key elements of academic literature on quality will be presented and discussed in order to generate useful guidelines for the analysis and enhancement of RE&AS quality.

On the definition of service quality

Multiple and contrasting definitions and conceptualizations of quality can be found in the academic literature. It is apparent that there is no clear, scholarly agreement on what quality is or what it means (Radomir *et al.*, 2012; Torres, 2014; Javed *et al.*, 2019). Several authors have argued that quality is a complex and multidimensional concept (Fatima *et al.*, 2019; Marimon *et al.*, 2019), which makes it difficult to define. Arguably, the existence of different definitions and conceptualizations of quality helps to grasp the concept's complexity and multidimensionality, thus, making them complementary instead of contradictory (Kiauta, 2012). According to Garvin (1984), to rely on a single definition of quality is a frequent source of problems.

Different scholars have highlighted that the interest in quality emerged in the context of the manufacturing industry (Cordero *et al.*, 2013; Torres, 2014; Alzaydi *et al.*, 2018), that is, in terms of product quality. However, there is a consistent agreement regarding the relevant differences between goods and services when addressing quality (Radomir *et al.*, 2012; Prakash and Mohanty, 2013; Polyakova and Mirza, 2015). Torres (2014) presents a definition of service quality that seems to be particularly useful for thinking about RE&AS, given the fact that it simultaneously considers customers' expectations, as well as the points of view of experts and other stakeholders: a service of quality is one whose superior standards create a sense of value that matches or exceeds the customer's ideal expectations. A quality service has enduring characteristics that would fulfill the standards of various stakeholders including consumers and experts.

In the context of service quality, the services' specificities and the market orientation of most academic literature have led most authors to consider service quality as customers' satisfaction or as perceived quality (López and Pérez, 2014; Polyakova and Mirza, 2015). Interestingly, this shows the change from a definition of quality centered on the inherent properties of goods or services to an approach focused on their capacity to fulfill consumers' needs or expectations (Vicher, 2012).

This theoretical presentation allows for some useful reflections on addressing the concept of RE&AS quality. Firstly, it was argued that there is no scholarly agreement on a single definition or conceptualization of quality. In consequence, further debate and discussion of what RE&AS quality means is a must. Secondly, potential disagreements in this debate should not be considered a problem or a limitation but, instead, a contribution to understanding the multiple dimensions of RE&AS quality. Finally, it is important to frame the debate over RE&AS quality in the context of service quality. Nonetheless, this framing should acknowledge that the market-oriented perspective of service quality focused on customer satisfaction is not the best fit for RE&AS, given that it needs to consider other dimensions of quality, such as technical quality as well as the social impact of extension services.

Key debates and discussions for a RE&AS quality framework

Some debates on quality are particularly useful for building a RE&AS quality framework. Firstly, there is an intuitive tendency to understand quality from a realistic perspective, in the sense that quality and its dimensions are usually assumed to exist before any definition of them. If this perspective is accepted, defining quality would imply formulating a good definition of what quality is. However, different authors have argued, perhaps not explicitly, that any definition of quality is the result of a social, constructive process. That means that quality is not pre-existent to its definition. In this sense, it has been highlighted that organizations as well as researchers have to formulate or select the quality definition that best fits their situation and interest (Hernández *et al.*, 2013; Urban, 2013). Interestingly, ISO 9000 Quality Standards do not provide a specific definition of quality for every industry or service area, but just a general one, leaving to each organization or institution the explicit responsibility of identifying their customers and other interested parties' needs and their own contextual quality objectives (ISO, 2015).

Additionally, many scholars have also highlighted that definitions of quality vary among different industry and service areas (Cordero *et al.*, 2013). Thus, it is clear that definitions and relevant dimensions of quality are industry, context and culture-dependant (Prakash and Mohanty, 2013; Terziovski and Guerrero, 2014; Polyakova and Mirza, 2015; Marimon *et al.*, 2019; Subiyakto and Kot, 2020).

A second interesting area of debate is the role of different stakeholders or interested parties in the contextual

definitions of quality. Within the market-oriented approach, consumers tend to be seen as the main source that defines what quality is in a specific industry area, company or organization. However, authors have claimed that, although quality must be customer-driven, the concept of quality used by a particular company can be enriched by also using the perspectives of experts and internal stakeholders (company's staff) (López and Pérez, 2014; Torres, 2014; Rodríguez-Espinosa *et al.*, 2017). Additionally, Golder *et al.* (2012) argue that quality attributes have also to be evaluated from an expert point of view, given the fact that customers may not have a clear or accurate perception of them. Interestingly, several authors suggest that different stakeholders can have different perceptions of service quality (Dedeoğlu and Demirer, 2015).

Different authors argue that organizations that offer high-quality products and/or services have to satisfy the needs and expectations of different stakeholders and not solely those of customers (Prakash and Mohanty, 2013). Moreover, Majstorovic (2009) suggests considering different stakeholders, such as owners and employees, as different types of customers, placing them on the same level as traditional customers. Interestingly, the ISO (International Organization for Standardization) 9000 Quality Standards highlight that quality organizations not only have to satisfy customers' needs but also those of other interested parties (Vicher, 2012; ISO, 2015). The ISO 9004/2009 Standard defines interested parties as individuals and other entities that add value to the organization or are otherwise interested in or affected by the activities of the organization. Despite the fact that specific industries or sectors of the economy may have to consider different stakeholders, in general terms, shareholders/owners, employees, suppliers/partners, and even the society as a whole are acknowledged as interested parties (ISO, 2005, 2009; Majstorovic, 2009). Likewise, the Excellence Model of the European Foundation for Quality Management (EFQM) also considers that excellent organizations have to meet the needs and expectations of different stakeholders (Michalska, 2008; Ciravegna, 2015; Castaño-Reyes *et al.*, 2017), even including within their model those of employees and the society as a whole, besides customers and owners (Suárez *et al.*, 2014). In acknowledgement of the fact that different stakeholders may have different and even contradictory needs and expectations, the ISO 9000 Standards highlight that the needs of the interested parties have to be met in a balanced way over the long term.

Finally, the last interesting topic of discussion refers to the components of a comprehensive, theoretical model for service quality. In this context, four key elements are identified: enablers, production processes, products, and results. Enablers are what makes quality processes, products, and results possible. The production process refers to how or in which way a product is built or a service shaped and delivered (Golder *et al.*, 2012; Alzaydi *et al.*, 2018). Products are the goods prepared for customer use or the service delivered to them. Lastly, results are what are obtained through the consumption of goods or services, both in the short and long term. These four elements are addressed in different ways by different approaches to quality.

In the context of the manufacturing industry, process and product are usually the core elements of quality. In this line, product quality is assumed to be the result of quality processes that assure conformance to specifications (Prakash and Mohanty, 2013). In the area of health services, processes and results seem to be the focus (Robledo *et al.*, 2012). Here, processes that follow scientific knowledge are expected to lead to health improvements (Cordero *et al.*, 2013; López and Pérez, 2014). From this perspective, patients' satisfaction with the practitioners and the health system is not neglected (García, 2001), but it is not considered to be the principal component of quality health services. In the context of a market-oriented approach to quality, customer satisfaction is paramount (Golder *et al.*, 2012; Polyakova and Mirza, 2015). Within this debate, customer satisfaction (customer understood either in a limited or broader sense) expresses a specific type of result: that is, customers are satisfied with the service or the product they have received.

The EFQM Excellence Model is composed of two types of elements: enablers and results. Enablers are defined in terms of what an organization does and how it does it, and results are what the organization achieves regarding all interested parties (Michalska, 2008; Castaño-Reyes *et al.*, 2017). The fundamental idea of the model is that merely addressing results does not allow companies to understand how product quality is generated (Robledillo and Velázquez, 2013; Saiz and Olalla, 2013). In this sense, enablers are expected to lead to quality results (Ciravegna 2015; Gómez *et al.*, 2015). Using a different terminology, Vicher (2012) describes organizational or process quality as 'internal quality', and Prakash and Mohanty (2013) highlight the importance of increasing the attention we place on the 'how' aspects of service quality (processes) instead of only focusing on the 'what' aspects (the service or product provided). The EFQM model includes five enablers and four types of results. Enablers include leadership, policy and

strategy, people, processes, and partnerships and resources, while results are divided in terms of customers, people (employees), society, and organizational results (García, 2001; Suárez *et al.*, 2014). Interestingly, this idea of multiple result areas clearly resembles the existence of multiple parties or stakeholders with different needs, expectations or interests.

Another topic of the literature on quality refers to specificities of services in contrast to manufactured products. As stated before, several authors emphasize that services are generally produced while they are being consumed. Moreover, it has also been highlighted that, in many cases, services are co-produced in the interaction between providers and consumers (Golder *et al.*, 2012; Prakash and Mohanty, 2013; Alzaydi *et al.*, 2018), which may lead suppliers to lose some control over the service they are providing (Polyakova and Mirza, 2015). Interestingly, analyzed from this perspective, the difference between service production processes and service delivery seems to partially lose weight and relevance, making the limit between them somewhat blurry.

Several ideas for developing a RE&AS quality framework can be drawn from this third area of theoretical discussion. Firstly, the concept of enablers emerges as highly useful, given the fact that acknowledging them helps us to understand how quality is generated and thus develop strategies to improve it. Secondly, the idea of understanding service production and service delivery as part of the same process also emerges as a promising tool for making sense of RE&AS quality dynamics, because services provided by extension workers and advisors imply simultaneously producing and delivering them. Thirdly, different authors understand RE&AS quality in terms of farmers' satisfaction or perceived quality. Nonetheless, following the EFQM model, it seems wise to recognize that in RE&AS there are various interested parties (stakeholders) that expect different results. Thus, a RE&AS quality framework should consider farmers or customers' satisfaction as one among other expected results that encompass quality.

Total quality management

Another area of interest for RE&AS is Total Quality Management (TQM). TQM is a holistic management philosophy aimed at obtaining excellent results through continuous organizational improvement (Suárez *et al.*, 2014; Ciravegna, 2015). TQM requires changes in the organizational culture, involvement of all staff, and clear commitment of top management (Santos and Álvarez, 2007). It goes beyond simply assessing quality or organizational results and its focus is the analysis of the whole institutional dynamic

and its relationships with the environment in order to address quality in a much broader sense (García, 2001; Saiz and Olalla, 2013). According to Robledillo and Velázquez (2013), TQM studies all the aspects and dynamics of an organization aimed at reaching quality results in a never-ending, continuous process (Prakash and Mohanty, 2013).

Total Quality Management requires identifying and determining the needs and interests of customers and other interested parties and defining the quality policy and the quality objectives of the organization (ISO, 2005). These guidelines allow for periodical self-assessments that compare the organization with a model of excellence, thus leading to the development and implementation of improvement action plans (Majstorovic, 2009; Saiz and Olalla, 2013).

Despite their differences, the ISO 9000 International Standards and the EFQM Excellence Model are two of the most well-known approaches for increasing business and organizational performance (Guix, 2005; Ciravegna, 2015). The EFQM Excellence Model is a non-prescriptive framework based on the identification of key enablers and results for achieving sustainable excellence (Robledillo and Velázquez, 2013; Suárez *et al.*, 2014). In contrast, although ISO 9000 Quality Standards incorporate different principles of excellence business models (Ciravegna, 2015), they are mostly aimed at standard quality management systems (Santos and Álvarez, 2007).

Beyond the interest of the EFQM and ISO 9000 Standards, there is agreement that they are not a panacea and have a number of limitations when attempting to guide organizations along their path to excellence (Kiauta, 2012; Terziovski and Guerrero, 2014; Marimon *et al.*, 2019). Guix (2005) states that the EFQM Model (but also the ISO 9000 Standards) has difficulties addressing issues of technical expertise, such as the case of public health and, of course, RE&AS. Thus, it is clear that companies and organizations can adopt quality models and strategies such as the EFQM or the ISO 9000 Standards, but they should take into consideration that they will have to find their own way of increasing performance and quality (García, 2001; Hernández *et al.*, 2013; Gómez *et al.*, 2015).

Towards a theoretical framework for RE&AS quality

Up to this point, the current literature on RE&AS quality has been analyzed, as well as that addressing quality in general. In this heading, a proposal for a theoretical

framework for addressing RE&AS quality is presented. Figure 1 expresses the proposal graphically.

In order to address RE&AS quality, three different, though articulated, elements are considered: the enablers, the process of producing and delivering the RE&AS, and the results obtained from such advice. Some examples are presented in Figure 1. Nonetheless, each extension institution should identify the most relevant components for their situation and context.

The enablers are the factors or processes that limit or facilitate the delivery of a quality RE&AS. Enablers are specifically highlighted in the EFQM excellence model. When reflecting on the quality of RE&AS, we usually tend to focus on the production and delivery process (mainly the relationship and interaction between advisors and farmers, and the content of the advice, etc.) and on the results obtained. Thus, what makes quality RE&AS possible (i.e. enablers) tends to be neglected. In this context, including enablers in the model helps us to acknowledge their relevance as 'roots' of extension service quality. At the same time, it allows us to better identify the reasons for the

low quality of RE&AS and the factor(s) that need to be addressed to improve them. Importantly, enablers seem to be multiple, diverse and highly context-dependent. However, identifying them is essential for developing strategies for quality improvement.

The second and third elements of the model are each composed of a set of quality standards. The idea of differentiating between them is to acknowledge the existence of dimensions of quality RE&AS that refer to quality processes (the production of the extension service and its delivery), while other dimensions refer to quality results that are expected to be obtained through the service. Despite finding support within academic literature on the subject, the standards presented in Figure 1 also have to be considered as examples and identified and jointly constructed for each particular institution in its context.

As mentioned above, the second element of the model entails quality standards referring to the process of production and delivering the extension service. Let us remember that the extension service (as many other services) is co-constructed with the customers (mostly farmers but also

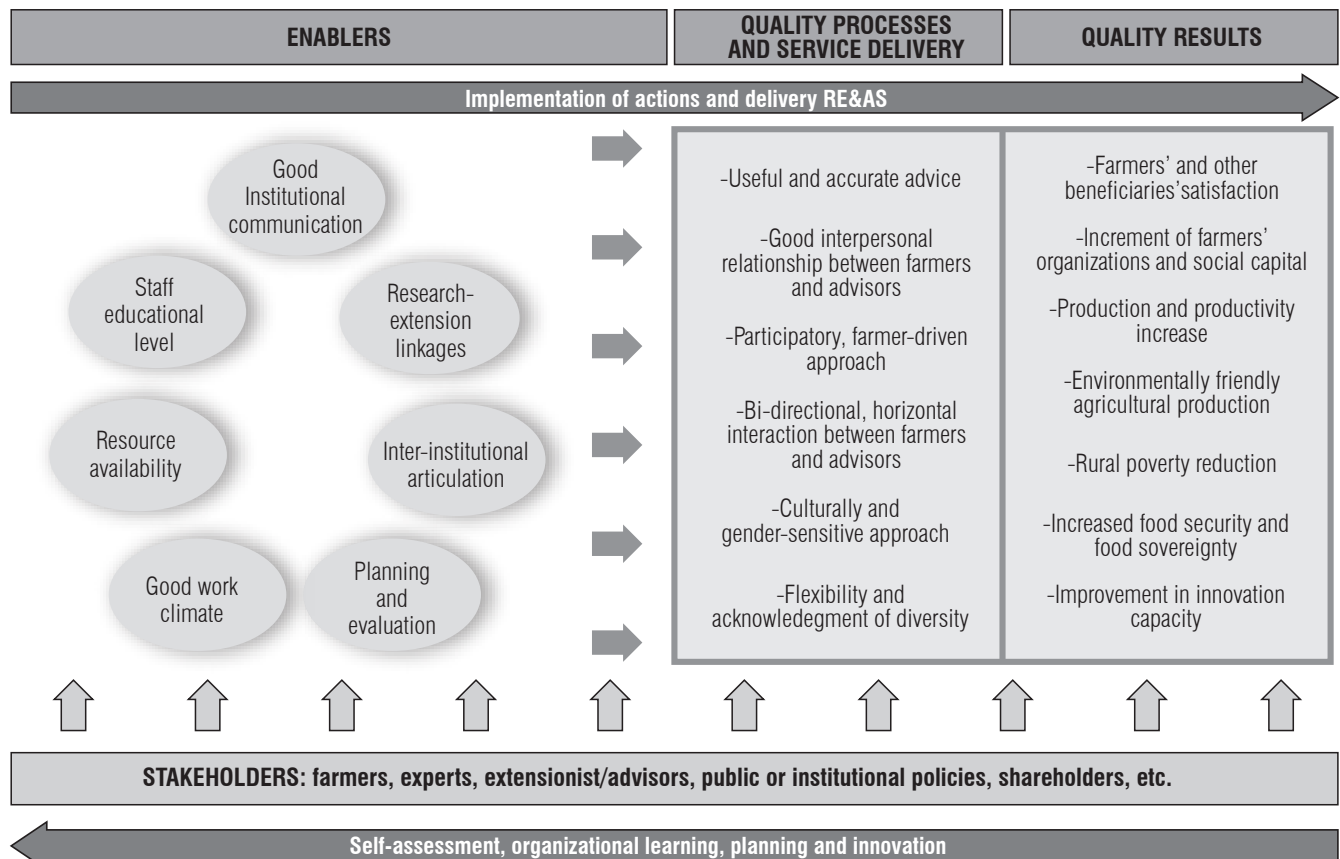


FIGURE 1. Theoretical framework for RE&AS quality.

other stakeholders), and implies that the production and delivery processes cannot be analyzed separately. Briefly, this second component of the model includes aspects related to both the production of the service, such as good interpersonal relationships between extension workers, and to the service itself, for instance usefulness and accuracy of the advice.

Finally, the third element encompasses the expected results of the extension services. Reaching these results also expresses quality. Regarding these quality standards, it is fair to discuss the degree of influence of RE&AS in reaching them. For instance, while being a traditional objective of RE&AS, increasing farmers' productivity is also influenced by the weather and the quality of inputs, among other variables. Importantly, different stakeholders will have to identify and define, among the results under the influence of RE&AS, which ones have to be considered as quality results.

A second aspect of the model refers to the stakeholders or interested parties that should be part of the definition of what quality is when referring to rural extension quality processes, services and results. As stated previously, farmers are not the only ones that can contribute to defining RE&AS quality, nor are extension experts. RE&AS involve different stakeholders whose perspectives have to be considered. In Figure 1, farmers, extension experts and extension staff are included, among others. The stakeholders to be considered as well as the procedures and the degree of their involvement (and power of influence) will vary and will have to be defined in each case, depending on the specific institutional and social context. For instance, relevant stakeholders will differ according to the institutional type (public or private) and the main objective of RE&AS (i.e. increasing farmers' productivity or addressing serious food insecurity situations). Thus, when we have to replace the examples indicated in Figure 1 with enablers and quality standards suitable for a specific context, we will need to identify contextually relevant stakeholders.

Finally, the model also includes two arrows. The first one goes from left to right, expressing the process of extension service delivery, focused on the provision of quality services. The second goes from right to left, expressing the process of quality self-assessment and organizational learning. This means that RE&AS organizations are expected to develop quality improvement strategies that lead to innovations in their service delivery. Analyzing both arrows together, they show a feedback process wherein extension service delivery is evaluated in terms of the presence of the

enablers and the fulfilment of quality standards, which leads to a learning, planning and innovational process that will be put into practice in RE&AS delivery in a continuous and never-ending quality improvement loop. These arrows show that quality assessment has to be linked to quality improvement strategies, i.e. evaluate to learn and improve. In this context, self-assessment of the different components of the model and use of Total Quality Management tools can play a key role.

Conclusions

This paper made three main contributions to RE&AS. First, it summarized and discussed scholarly bibliography on RE&AS quality. Surprisingly, and despite the relevance of the topic, no one has written a single article synthesizing and systematically discussing the current literature on the topic until now. Second, some of the most relevant debates on service quality were presented and discussed from the point of view of extension services. Finally, the third and foremost contribution of this paper was its proposal for an integrative theoretical framework to address, manage and improve RE&AS quality.

This paper also led to several interesting reflections and conclusions. First, RE&AS quality has to be conceptualized from different points of view in order to grasp its complexity and multidimensionality. On the one hand, what is described in terms of extension service quality has to be addressed from a perspective of process. Enablers make quality possible. Then, there is the production and delivery of a quality service. And, finally, RE&AS quality also means reaching desired results, including the satisfaction of farmers and other stakeholders. Thus, it is necessary to acknowledge and pay attention to all three of these elements to provide a high-quality extension service, and not merely to one of them. On the other hand, different stakeholders (including farmers) have different expectations, interests and goals, which leads to different perspectives on quality. In consequence, what RE&AS quality is, effectively, will be the result of an agreement or compromise between these different perspectives. Interestingly, it implies that establishing what extension service quality is, is not a technocratic procedure, but a social and complex one that involves negotiation and power issues.

Secondly, these reflections also imply that what defines quality in terms of RE&AS will depend on the particular context at hand, due to the existence of stakeholders with different expectations, interests and goals. Thirdly, following this perspective, extension service quality also ends up

being an inter-subjective, socially constructed concept, which implies that a definition of extension service quality cannot be reached without considering the point of view of different stakeholders. Finally, reflections also lead to acknowledging the importance of assessing the quality of extension services as a means for organizational learning and for the implementation of innovative improvement initiatives.

This paper contains multiple statements on RE&AS quality. Nonetheless, it is a simple proposal that requires further scholarly discussion, proving practical usefulness in concrete contexts. In this sense, it seems to be a first step in the right direction, inviting its audience to seriously and systematically discuss RE&AS quality from an integrative perspective.

Acknowledgments

The author would like to thank the German Agency for International Cooperation (GIZ for their initials in German - Deutsche Gesellschaft für Internationale Zusammenarbeit) for funding the consultancy that allowed the development of the ideas presented in this article.

Literature cited

- Aguirre, F. 2012. El nuevo impulso de la extensión rural en América Latina. Situación actual y perspectivas. RELASER, Santiago, Chile. URL: <http://www.redinnovagro.in/documentosinnov/nuevoimpulso.pdf> (accessed 16 August 2019).
- Akumu, G., J. Muyonga, and K. Frank. 2019. The influence of extension approaches on uptake of postharvest technologies among maize farmers in Uganda. *Afric. J. Rural Devel.* 3(4), 955-971. URL: <https://www.afjrd.org/jos/index.php/afjrd/article/view/1687> (accessed 13 January 2020).
- Alzaydi, Z., A. Al-Hajla, B. Nguyen, and C. Jayawardhena. 2018. A review of service quality and service delivery: towards a customer co-production and customer-integration approach. *Bus. Process Manag. J.* 24(1), 295-328. Doi: 10.1108/BPMJ-09-2016-0185
- Anaza, N., B. Rutherford, and R. Widdows. 2012. Factors influencing perceptions of service quality in cooperative extension workers. *J. Ext.* 50(3). URL: www.joe.org/joe/2012june/rb3.php (accessed 16 August 2019).
- Anik, A. and A. Salam. 2015. Determinants of adoption of improved onion variety in Bangladesh. *J. Agric. Environ. Int. Dev.* 109(1), 71-88.
- Archer, T., P. Warner, W. Miller, C. Clark, S. James, C. Summings, and U. Adamu. 2007a. Excellence in extension: Two products for definition and measurement. *J. Ext.* 45(1). URL: www.joe.org/joe/2007february/tt1.php (accessed 16 August 2019).
- Archer, T., P. Warner, W. Miller, C. Clark, S. James, C. Summings, and U. Adamu. 2007b. Can we define and measure excellence in extension? *J. Ext.* 45(1). URL: www.joe.org/joe/2007february/comm1.php (accessed 16 August 2019).
- Baig, M., J. Pulhin, L. El-Juhany, G. Straquadine. 2019. Ensuring sustainability in forests through the participation of locals: implications for extension education. pp. 323-360. In: Behnassi M., O. Pollmann, and H. Gupta (eds.). *Climate change, food security and natural resource management*. Springer, Cham, Switzerland. Doi: 10.1007/978-3-319-97091-2_18
- Benin, S., E. Nkonya, G. Okecho, J. Pender, S. Nahdy, S. Mugarura, E. Kato, and G. Kayobyo. 2007. Assessing the impact of the national agricultural advisory services (NAADS) in the Uganda rural livelihoods. International Food Policy Research Institute, Washington. URL: <http://ebrary.ifpri.org/utils/getfile/collection/p15738coll2/id/125292/filename/125293.pdf> (accessed 16 August 2019).
- Birner, R., K. Davis, J. Pender, E. Nkonya, P. Anandajayasekeram, J. Ekboir, A. Mbabu, D. Spielmana, D. Hornaa, S. Benina, and M. Cohene. 2009. From best practice to best fit: a framework for designing and analyzing pluralistic agricultural advisory services worldwide. *J. Agr. Educ. Ext.* 15(4), 341-355. Doi: 10.1080/13892240903309595
- Castaño-Reyes, G., Á. Parrado-Barbosa, and J. Molina-Ochoa. 2017. Diseño y validación de un modelo para la evaluación de la calidad de la asistencia técnica agropecuaria en Colombia. *Rev. Colomb. Cienc. Hortic.* 11(2), 387-399. Doi: 10.17584/rcch.2017v11i2.6324
- Christoplos, I. 2008. *Agricultural advisory services and the market*. Overseas Development Institute, London. URL: <https://dlc.dlib.indiana.edu/dlc/bitstream/handle/10535/3879/NRP113.pdf?sequence=1&isAllowed=y> (accessed 16 August 2019).
- Christoplos, I. 2010. Mobilizing the potential of rural and agricultural extension. Food and Agriculture Organization of the United Nations, Rome. URL: <http://www.fao.org/3/i1444e/i1444e.pdf> (accessed 16 January 2020).
- Christoplos, I., P. Sandison, and S. Chipeta. 2012. Guide to evaluating rural extension. GFRAS, Lindau, Switzerland. URL: <http://www.g-fras.org/en/knowledge/gfras-publications/file/78-guide-to-.html> (accessed 16 August 2019).
- Ciravegna, L. 2015. Relationship between ISO 9001 certification maturity and EFQM business excellence model results. *Qual. Innov. Prosperity* 19(1), 85-102. Doi: 10.12776/QIP.V19I1.556
- Comes, Y. and A. Stolkiner. 2004. Si pudiera pagaría: estudio sobre la accesibilidad simbólica de las mujeres usuarias pobres del AMBA a los servicios asistenciales estatales. *Anuario de Investigaciones* 12, 137-143.
- Cordero, I., S. López, and I. Mora. 2013. La calidad en la formación de los recursos humanos en anestesiología y reanimación. *Rev. Cuba. Anestesiol. Reanim.* 12(1), 12-19.
- Danielsen, S. and P. Kelly. 2010. A novel approach to quality assessment of plant health clinics. *Int. J. Agr. Sustain.* 8(4), 257-269. Doi: 10.3763/ijas.2010.0494
- Danielsen, S., E. Boa, M. Mafabi, E. Mutebi, R. Reeder, F. Kabeere, and R. Karyeija. 2013. Using plant clinic registers to assess the quality of diagnoses and advice given to farmers: a case study from Uganda. *J. Agric. Educ. Ext.* 19(2), 183-201. Doi: 10.1080/1389224X.2012.741528

- Dedeoğlu, B. and H. Demirer. 2015. Differences in service quality perceptions of stakeholders in the hotel industry. *Int. J. Contemp. Hospit. Manag.* 27(1), 130-146. Doi: 10.1108/IJCHM-08-2013-0350
- Diehl, D., S. Swenson, and J. Wente. 2012. Evaluation of a sustainable Green Living Expo event: attendees' reports of satisfaction, learning, and behavior change. *J. Ext.* 50(3). URL: www.joe.org/joe/2012june/a8.php (accessed 16 August 2019).
- Dunne, A., A. Markey, and J. Kinsella. 2019. Examining the reach of public and private agricultural advisory services and farmers' perceptions of their quality: the case of county Laois in Ireland. *J. Agric. Educ. Ext.* 25(5), 401-414. Doi: 10.1080/1389224X.2019.1643746
- Elahi, E., M. Abid, L. Zhang, S. ul Haq, and J. Sahito. 2018. Agricultural advisory and financial services; farm level access, outreach and impact in a mixed cropping district of Punjab, Pakistan. *Land Use Policy* 71, 249-260. Doi: 10.1016/j.landusepol.2017.12.006
- Fatima, I., A. Humayun, U. Iqbal, and M. Shafiq. 2019. Dimensions of service quality in healthcare: a systematic review of literature. *Int. J. Qual. Health C.* 31(1), 11-29. Doi: 10.1093/intqhc/mzy125
- Faure, G., Y. Desjeux, and P. Gasselin. 2012. New challenges in agricultural advisory services from a research perspective: a literature review, synthesis and research agenda. *J. Agric. Educ. Ext.* 18(5), 461-492. Doi: 10.1080/1389224X.2012.707063
- Feng, W., Y. Duan, B. Mathews, and Z. Fu. 2007. Measuring ICT-based agricultural knowledge transfer under a sender advantage asymmetric information structure. *New Zealand J. Agric. Res.* 50(5), 1307-1314. Doi: 10.1080/00288230709510417
- Franz, N., M. Arnold and S. Baughman. 2014. The role of evaluation in determining the public value of extension. *J. Ext.* 52(4). URL: www.joe.org/joe/2014august/comm3.php (accessed 16 August 2019).
- Fredendall, L. and R. Lippert. 1995. Applying Total Quality Management in cooperative extension. *J. Ext.* 33(3). URL: www.joe.org/joe/1995june/a1.php (accessed 16 August 2019).
- Galindo, S. and G. Israel. 2010. The influence of type of contact with extension on client satisfaction. *J. Ext.* 48(1). URL: www.joe.org/joe/2010february/a4.php (accessed 16 August 2019).
- García, R. 2001. El concepto de calidad y su aplicación en medicina. *Rev. Méd. Chile* 129(7), 825-826. Doi: 10.4067/S0034-98872001000700020
- Garst, B. and N. Franz. 2014. Benchmarking professional development practices across youth-serving organizations: implications for extension. *J. Ext.* 52(5). URL: www.joe.org/joe/2014october/a2.php (accessed 16 August 2019).
- Garvin, D. 1984. What does 'product quality' really mean? *MIT Sloan Manag. Rev.* 26(1), 25-43.
- Golder, P., D. Mitra, and C. Moorman. 2012. What is quality? An integrative framework of processes and states. *J. Mark.* 76(4), 1-23. Doi: 10.1509/jm.09.0416
- Gómez, J., M. Martínez, and A. Martínez. 2015. An in-depth review of the internal relationships of the EFQM model. *The TQM J.* 27(5), 486-502. Doi: 10.1108/TQM-05-2013-0056
- Grinberga-Zālite, G. and E. Liepa. 2012. Possibilities for training services' quality evaluation in rural extension. *Proceedings of the 53rd International Scientific Conference of Daugavpils University.* Daugavpils University, Latvia.
- Guix, J. 2005. Calidad en salud pública. *Gac. Sanit.* 9(4), 325-332. Doi: 10.1157/13078042
- Herman, M. and S. Grant. 2015. Minnesota 4-H youth program quality improvement model. *J. Ext.* 53(4). URL: www.joe.org/joe/2015august/iw4.php (accessed 16 August 2019).
- Hernández, G., J. Arcos, and J. Sevilla. 2013. Gestión de la calidad bajo la norma ISO 9001 en instituciones públicas de educación superior de México. *Calidad en la Educación* 39, 82-115. Doi: 10.4067/S0718-45652013000200004
- ISO (International Organization for Standardization). 2005. ISO 9000:2005. Quality management systems. Fundamentals and vocabulary. 3rd ed. ISO, Geneva, Switzerland.
- ISO (International Organization for Standardization). 2009. ISO 9004:2009. Managing for the sustained success of an organization. A quality management approach. 6th ed. ISO, Geneva, Switzerland.
- ISO (International Organization for Standardization). 2015. ISO 9000:2015. Quality management systems. Fundamentals and vocabulary. 4th ed. ISO, Geneva, Switzerland.
- Israel, G. 2010. Using web-hosted surveys to obtain responses from extension clients: A cautionary tale. *J. Ext.* 48(4). URL: www.joe.org/joe/2010august/a8.php (accessed 16 August 2019).
- Israel, G. 2013. Using mixed-mode contacts in client surveys: getting more bang for your buck. *J. Ext.* 51(3). URL: www.joe.org/joe/2013june/a1.php (accessed 16 August 2019).
- Issa, F. and M. Issa. 2013. Building the capacity of agricultural extension personnel for effective implementation of agricultural transformation agenda in Nigeria. *J. Agric. Ext.* 17(1), 78-88. Doi: 10.4314/jae.v17i1.8
- Javed, S., S. Liu, A. Mahmoudi, and M. Nawaz. 2019. Patients' satisfaction and public and private sectors' health care service quality in Pakistan: application of grey decision analysis approaches. *Int. J. Health Plann. Manag.* 34(1), e168-e182. Doi: 10.1002/hpm.2629
- Jona, C. and S. Terblanché. 2015. Farmers' perception on contact frequency, adequacy, relevance and quality of agriculture support services (ASS) in Oshikoto region in Namibia. *S. Afr. J. Agric. Ext.* 43(1), 107-121. URL: <http://www.scielo.org.za/pdf/sajae/v43n1/09.pdf> (accessed 16 August 2019).
- Kiauta, M. 2012. Idea of quality versus idea of excellence. *Qual. Innov. Prosper.* 16(2), 103-114. URL: <http://www.qip-journal.eu/index.php/QIP/article/viewFile/74/51> (accessed 16 August 2019).
- Krishna, V., L. Aravalath, and S. Vikraman. 2019. Does caste determine farmer access to quality information? *PLOS One* 14(1), e0210721. Doi: 10.1371/journal.pone.0210721
- Lamm, A., G. Israel, and D. Diehl. 2013. A national perspective on the current evaluation activities in extension. *J. Ext.* 51(1). URL: www.joe.org/joe/2013february/a1.php (accessed 16 August 2019).
- Lamontagne-Godwin, J., F. Williams, W. Bandara, and Z. Appiah-Kubi. 2017. Quality of extension advice: a gendered case study from Ghana and Sri Lanka. *J. Agric. Educ. Ext.* 23(1), 7-22. Doi: 10.1080/1389224X.2016.1230069

- Landini, F. 2016a. Unfolding the knowledge and power dynamics of the 'farmers-rural extensionists' interface in North-Eastern Argentina. *J. Agric. Educ. Ext.* 22(5), 399-413. Doi: 10.1080/1389224X.2016.1227050
- Landini, F. 2016b. Concepción de extensión rural en 10 países latinoamericanos. *Andamios* 27(1), 211-236. Doi: 10.29092/uacm.v13i30.9
- Landini, F. 2016c. How to be a good rural extensionist. Reflections and contributions of Argentine practitioners. *J. Rural Stud.* 43(1), 193-202. Doi: 10.1016/j.rurstud.2015.11.014
- Landini, F. and V. Bianqui. 2014. Socio-demographic profile of different samples of Latin American rural extensionists. *Ciênc. Rural* 44(3), 575-581. Doi: 10.1590/S0103-84782014000300030
- Landini, F. and V. Bianqui. 2018. Estándares de calidad para el servicio de extensión de la Dirección de Extensión Agraria de Paraguay. *Revista Agroalimentaria* 24(46), 119-132. URL: <https://dialnet.unirioja.es/descarga/articulo/6820118.pdf> (accessed 13 January 2020).
- Leeuwis, C. 2004. Communication for rural innovation. Rethinking agricultural extension. Blackwell Science, Oxford, UK. Doi: 10.1002/9780470995235
- Leeuwis, C. and N. Aarts. 2011. Rethinking communication in innovation processes: creating space for change in complex systems. *J. Agric. Educ. Ext.* 17(1), 21-36. Doi: 10.1080/1389224X.2011.536344
- Lindner, J. and R. Nieto. 1998. Total quality management and effective extension teaching. *J. Ext.* 36(2). URL: www.joe.org/joe/1998april/rb2.php (accessed 16 August 2019).
- López, Y. and L. Pérez. 2014. Calidad de los servicios de ortodoncia. *Gac. Méd. Espirit.* 16(3), 1-8. URL: <http://scielo.sld.cu/pdf/gme/v16n3/gme21314.pdf> (accessed 16 August 2019).
- Majstorovic, V. 2009. Future developments of QMS. *Manager* 10, 155-164.
- Marimon, F., M. Mas-Machuca, J. Berbegal-Mirabent, and J. Llach. 2019. UnivQual: a holistic scale to assess student perceptions of service quality at universities. *Total Qual. Manag. Bus. Excell.* 30(1-2), 184-200. Doi: 10.1080/14783363.2017.1302795
- Masangano, C., D. Kambewa, N. Bosscher, and P. Fatch. 2017. Malawi's experiences with the implementation of pluralistic, demand-driven and decentralised agricultural extension policy. *J. Agric. Ext. Rural Dev.* 9(9), 185-195. Doi: 10.5897/JAERD2017.0875
- Michalska, J. 2008. Using the EFQM excellence model to the process assessment. *J. Achiev. Mater. Manuf. Eng.* 27(2), 203-206.
- Moschitz, H., D. Roep, G. Brunori, and T. Tisenkopfs. 2015. Learning and innovation networks for sustainable agriculture: processes of co-evolution, joint reflection and facilitation. *J. Agric. Educ. Ext.* 21(1), 1-11. Doi: 10.1080/1389224X.2014.991111
- Mueller, M. 1991. Quality means results. *J. Ext.* 29(1). URL: www.joe.org/joe/1991spring/a1.php (accessed 16 August 2019).
- Myeni, L., M. Moeletsi, M. Thavhana, M. Randela, and L. Mokoena. 2019. Barriers affecting sustainable agricultural productivity of smallholder farmers in the Eastern Free State of South Africa. *Sustainability* 11(11), 3003. Doi: 10.3390/su11113003
- Nagel, U. 1997. Alternative approaches to organizing extension. In: B. Swanson, R. Bentz, and A. Sofranko (eds.). *Improving agricultural extension. A reference manual*. FAO, Rome. URL: <http://www.fao.org/3/W5830E/w5830e04.htm#chapter%202%20%20%20alternative%20approaches%20to%20organizing%20extension> (accessed 16 August 2019).
- Polyakova, O. and M. Mirza. 2015. Perceived service quality models: are they still relevant? *The Marketing Review* 15(1), 59-82. Doi: 10.1362/146934715X14267608178721
- Prakash, A. and R. Mohanty. 2013. Understanding service quality. *Prod. Plan. Control* 24(12), 1050-1065. Doi: 10.1080/09537287.2011.643929
- Qamar, K. 2011. Introducing demand-driven extension approach in a traditional region: A case study from Pakistan. FAO, Rome. URL: www.fao.org/3/a-i2354e.pdf (accessed 16 August 2019).
- Quaye, W., M. Fuseini, P. Boadu, and N. Asafu-Adjaye. 2019. Bridging the gender gap in agricultural development through gender responsive extension and rural advisory services delivery in Ghana. *J. Gend. Stud.* 28(2), 185-203. Doi: 10.1080/09589236.2017.1419941
- Radomir, L., I. Plăiaș, and V. Nistor. 2012. A review of the service quality concept. Past, present and perspectives. pp. 404-427. In: Plăiaș, I. and D.C. Dabija (eds). *Proceedings of the International Conference "Marketing - from information to decision"*. 2012, October 26-27, Cluj-Napoca, Romania. Cluj-Napoca, Risoprint.
- Ragasa, C. and J. Mazunda. 2018. The impact of agricultural extension services in the context of a heavily subsidized input system: the case of Malawi. *World Dev.* 105, 25-47. Doi: 10.1016/j.worlddev.2017.12.004
- Rivera, W. and G. Alex. 2004. Extension system reform and the challenges ahead. *J. Agric. Educ. Ext.* 10(1), 23-36. Doi: 10.1080/13892240485300051
- Robledillo, A. and D. Velázquez. 2013. Introducción a los sistemas de gestión de la calidad total: modelo de excelencia EFQM y autoevaluación. *Med. Segur. Trab.* 59(232), 302-309. Doi: 10.4321/S0465-546X2013000300002
- Robledo, H., J. Meljem, G. Fajardo, and D. Olvera. 2012. De la idea al concepto en la calidad en los servicios de salud. *Revista CONAMED* 17(4), 172-175.
- Rodríguez-Espinosa, H., M. Piedrahíta-Pérez, and A. Velásquez-Chica. 2017. Identificación de indicadores de evaluación y seguimiento de la asistencia técnica agropecuaria en Antioquia (Colombia). *Cienc. Tecnol. Agropecuaria* 18(3), 479-493. Doi: 10.21930/rcta.vol18_num3_art:739
- Saiz, J. and B. Olalla. 2013. Modelo EFQM y creación de valor: una aproximación teórica. *The Anáhuac Journal: Business and Economics* 13(1), 31-54.
- Santos, M. and L. Álvarez. 2007. Gestión de la calidad total de acuerdos con el modelo EFQM: Evidencias sobre sus efectivos en el rendimiento empresarial. *Universia Bus. Rev.* 13, 76-89.
- Sarker, A. and Y. Itoharu. 2009. Farmers' perception about the extension services and extension workers: the case of organic agriculture extension program by PROSHIKA. *Am. J. Agric. Biol. Sci.* 4(4), 332-337. Doi: 10.3844/ajabssp.2009.332.337
- Sayeed, C., P. Reddy, and P. Pillay. 2015. Minding the gap between policy and practice amongst extension workers: lessons from KwaZulu Natal. *S. Afr. J. Agric. Ext.* 43(1), 57-65.

- Singletary, L., S. Emm, F. Brummer, G. Hill, S. Lewis, and V. Hebb. 2016. Results of an assessment to identify potential barriers to sustainable agriculture on American indian reservations in the Western United States. *J. Agric. Educ. Ext.* 22(4), 375-387. Doi: 10.1080/1389224X.2015.1074591
- Sseguya, H., R. Mazur, E. Abbott, and F. Matsiko. 2012. Information and communication for rural innovation and development: context, quality and priorities in Southeast Uganda. *J. Agric. Educ. Ext.* 18(1), 55-70. Doi: 10.1080/1389224X.2012.638783
- Suárez, E., J. Roldán, and A. Calvo. 2014. A structural analysis of the EFQM model: an assessment of the mediating role of process management. *J. Bus. Econ. Manag.* 15(5), 862-885. Doi: 10.3846/16111699.2013.776627
- Subiyakto, B. and S. Kot. 2020. The government reform on health-care facilities from the standpoint of service quality performance. *Int. J. Econ. Financ. Stud.* 12(1), 16-31. Doi: 10.34109/ijefs.202012102
- Sulaiman, R. and K. Davis. 2012. The 'new extensionist': roles, strategies, and capacities to strengthen extension and advisory services. GFRAS, Lindau, Switzerland. URL: <http://www.g-fras.org/en/knowledge/gfras-publications/file/126-the-new-extensionist-position-paper?start=20> (accessed 16 August 2019).
- Terziovski, M. and J. Guerrero. 2014. ISO 9000 Quality system certification and its impact on product and process innovation performance. *Int. J. Prod. Econ.* 158, 197-207. Doi: 10.1016/j.ijpe.2014.08.011
- Terry, B. and G. Israel. 2004. Agent performance and customer satisfaction. *J. Ext.* 42(6). URL: www.joe.org/joe/2004december/a4.php (accessed 16 August 2019).
- Torres, E. 2014. Deconstructing service quality and customer satisfaction: challenges and directions for future research. *J. Hosp. Mark. Manag.* 23(6), 652-677. Doi: 10.1080/19368623.2014.846839
- Trigo, E., N. Mateo, and C. Falconi. 2013. Agricultural innovation in Latin America and the Caribbean: institutional scenarios and mechanisms. Inter-American Development Bank. URL: www.relasor.org/index.php/noticias/76-agricultural-innovation-in-lac-me (accessed 16 August 2019).
- Turkson, P. 2009. Clients' perception of delivery of veterinary services in peri-urban Ghana. *Trop. Anim. Health Pro.* 41(1), 121-128. Doi: 10.1007/s11250-008-9166-x
- Urban, W. 2013. Perceived quality versus quality of processes: a meta concept of service quality measurement. *Serv. Ind. J.* 33(2), 200-217. Doi: 10.1080/02642069.2011.614337
- Vicher, M. 2012. Utilidad o futilidad: calidad e ISOs en la administración pública. *Convergencia* 60(3), 205-228.
- Zwane, E. and I. Groenewald. 2014. Critical factors influencing performance of extensionists in Limpopo Department of Agriculture in South Africa. *S. Afr. J. Agric. Ext.* 42(1), 49-61.