

Methodological-interinstitutional proposal for a new extensionism in Mexico

Pedro Cadena-Iñiguez¹
Roberto Rendón-Medel^{2§}
Horacio Rodríguez-Vázquez³
Carolina Camacho-Villa⁴
Eduardo Santellano-Estrada⁵
Francisco Guevara-Hernández⁶
Bram Govaerts⁴

¹National Institute of Forestry, Agriculture and Livestock Research. (cadena.pedro@inifap.gob.mx).
²CIESTAAM-Autonomous University of Chapingo. ³The Nature Conservancy. (h.rodriguezvazquez@tnc.org). ⁴International Maize and Wheat Improvement Center (CIMMYT). (c.camacho@cgiar.org; b.govaerts@cgiar.org). ⁵Autonomous University of Chihuahua. (esantellano@gmail.com). ⁶Autonomous University of Chiapas (francisco.guevara@unach.mx).

[§]Corresponding author: rendon.roberto@ciestaam.edu.mx.

Abstract

In Mexico extension as a professional activity has been revalued, by the Government of the Mexican Republic itself, according to data from SAGARPA there are at least 23 thousand technicians in the registered registry. The segments of attention of producers in Mexico have been defined and new programs are built where inclusion is a common denominator. During two years, a group of 20 specialists from as many institutions met under the auspices of CIMMYT-Mas Agro, to agree on the concept of extensionism and it was possible to elaborate a working document that describes the philosophical, methodological and operative principles of extensionism in Mexico.

Keywords: extensionism, principles, Mexico.

Reception date: September 2018

Acceptance date: November 2018

Introduction

This document is the first approach to a conceptual theoretical definition based on the experiences of the various stakeholders involved in the inter-institutional extension group (GIE) composed of national and international experts, representatives of public sector institutions, private initiative, academic institutions, research centers, organizations and civil society professionals from different specialties, with one goal: to reach a collective definition of extensionism in Mexico. For this, several forums, workshops and meetings were held for two years, which helped significantly to mint this document. The GIE was formed with the purpose of promoting the emergence of different voices and readings that facilitate the exchange of ideas, experiences and visions about extensionism in Mexico and the world.

From the beginnings of extensionism, the Land Grant model of the North American Universities, the actors involved were always three or more of these: an actor that investigated represented by the experimental stations or the universities, an actor that disseminated the information or extension agent, which was considered as the 'bridge' between the first actor and the last, who would act as the receiver of the technologies and knowledge generated, these concepts permeated even with Roger (1963) where he described widely the role of the institutions involved in the generation of technologies.

Later these concepts were overcome to give way to the concepts of innovation, which are also referred to and detailed extensively in Muñoz and Santoyo, (2010). With the implementation of the neoliberal model worldwide, with the exception of very few countries in the world, they disappeared as part of the reduction of public spending, the extension agent, and the construction of the offices sponsored by local governments in their beginnings and later would be self-sustainable with resources coming from the sale of products and services. Until the revaluation of this service with new financing schemes that do not occupy more tax burden. Scheme that was adopted in many Latin American countries including Mexico.

What is extensionism? Several authors have conceptualized the term extensionism from different dimensions, such as education or communication. Maunder (1973) cited by Leeuwis and Van (2004), defines extension as a service or system in which people from the countryside are assisted through educational procedures through the improvement of methods and techniques, the increase of production efficiency and the increase in your income.

Van Gent and Katus (1980) cited by Leeuwis and Van (2004), consider extension as a systematic and deliberate attempt by which knowledge and information is transmitted to help or develop someone in such a way that they can be able to make decisions in specific situations with a maximum level of understanding, awareness and conformity of their own interests and conscience.

Röling (1980) cited by Leeuwis and Van (2004), defines extension as a professional communication intervention implemented by an institution that induces a change in voluntary behavior with an alleged public objective or collective utility. Van den Ban and Katus (1980)

cited by Leeuwis and Van (2004), indicates that extension involves a conscious use of information communication to help people generate opinions and make good decisions, on the other hand, Swanson and Claar 1984 cited by Leeuwis and Van (2004), conceptualize extension as the progressive process through which useful information is obtained for people and in the assistance of people to acquire necessary knowledge, skills and attitudes that effectively use this information and technology.

The educator of America, Paulo Freire (1998) defines the term extension as: transmission of contents of an active subject (the one that transmits and that adopts a role as supreme and superior being) and extends towards a receiver (placed in a lower role). As Leeuwis and Van (2004) point out, the above concepts were developed during the Enlightenment era and it was believed that through the adoption of science-based innovations and by grounding decisions in rational and scientific procedures, farmers and Agriculture would benefit automatically, concepts widely refuted by Cadena *et al.* (2015), based on the concepts of Rogers of the 60's (1983). Zuurbier (1984) cited by Zijp-Willem (1992), indicates that more than a global definition of extensionism, five factors must be considered to address the issue: 1) it is an intervention; 2) uses communication as a means to change; 3) the change must be voluntary; 4) work through a process and results plan; and 5) it is institutionalized.

Khalil *et al.* (2008), citation that should be considered leadership and organizational commitment as two key characteristics for the extension to have a good performance. On the other hand, Christoplos (2010), indicates that the extension should be a system that facilitates farmers, other actors in the value chain and their organizations with knowledge, information and technologies. It also facilitates interaction with collaborators in research, education, agribusiness and other relevant institutions to assist them in the development of their own techniques, organization and management skills and practices.

Recommends that in rural areas, it should go from the classic tasks to: 1) disseminate information about technologies; 2) report on new research, markets, supplies and financial services and climate and weather; 3) individual and group training of farmers, agribusinesses and others involved in the agricultural production chain; 4) evaluate and adapt new technologies and practices in the field; 5) develop entrepreneurial skills among small farmers and other local entrepreneurs; 6) facilitate links between market actors; 7) Link small farmers, rural businesses and other members of the community with institutions offering training and education in areas of interest to the agricultural sector; 8) facilitate links between the public sector and farmers and their organizations; 9) support the development of institutional processes; 10) develop formal rural organizations (including organizations for young people) to support the articulation of demands; 11) support to implement government policies and programs through access to information and advice based on technological options; 13) contribute to the development of more appropriate policies and programs through facilitation and feedback from farmers and local entrepreneurs; 14) raise awareness about new opportunities for certification or other production methods; 15) facilitate access to non-governmental extension support (for example, insurance against climate risks, among others); and 16) facilitate access to credit; among others.

According to Swanson and Rajalahti (2010), one of the main conditions for extensionism is that information must be systematized, assembled and adapted to a good and progressive environment based on the accumulation of experiences and findings through of the investigations. In addition, this information should be used to educate agricultural professionals who could contribute to knowledge or become promoters and disseminators. It is also important that there is an adequate organizational structure through which the activities established and previously conducted can be disseminated.

Another fundamental element is the legislation or some official mandate that indicates that extension work is desirable and that it should occur. López-Alcocer and Castro-Ibáñez (2010) suggest that agricultural extensionism in the context of Mexico should be a community educational practice, in which individuals are actors that seek survival strategies to build productive projects. They indicate that extensionism should be assumed as a community educational model given that it starts with an opinion from the community and that it must recognize the peasant as an actor of sustainable development and that he is in search of improving conditions and that his worldview is a fundamental part. Any extension model must start with the inhabitants, encouraging the establishment and appropriation of actions. The extensionist thus, should be a facilitator-educator of the learning processes, should consider the local problems and be a transformer of the social realities.

It also suggests that the extension model should be one of the national priorities, matching state support and the needs of the farmer and should teach decision-making to solve problems, valuing the subject and its effects. For the implementation of the extension they must have a policy that supports this and the extension agent must, in addition to having the technical profile, know the environment, environment and social context of the area where it affects, which will lead to having a multidisciplinary profile.

Alcocer and Castro (2010) also suggest that, in the context of Mexico, the level of knowledge of extension workers should range from production activities to commercialization. Thus, the extension agent must be an intermediary of knowledge that facilitates the teaching and learning process. For this, the extensionist is required to have a multidisciplinary profile within the system that is governed by the market. In addition, they cite that the public extension system requires adding other participants involved in the agricultural production chain (private sector, financing institutions, companies, NGOs, etc.). In this proposal, the farmer becomes an actor and ceases to be a passive recipient.

Extensionism according to the GIE

The vision of new extensionism, rather than a static concept, should be understood as a multisectoral and multidimensional process, which adopts different strategies/methods depending on the political, socioeconomic and agroecological environment of the territory, as well as the profile of the actors involved in the innovation system. It gives special relevance to the context and local actors, promoting a territorial approach through innovation nodes where local teams interact.

From this definition, extensionism is not only the educational action towards a sector of the population, so in addition to making technology transfer, through tools and communication resources that favor innovation, there must be technical accompaniment processes for producers

and livestock farmers, and should be complemented with technological resources such as technological updating, innovation and research, in addition to the use of information and communication technologies (TIC), graphically the components of the new extension they are shown in Figure 1.

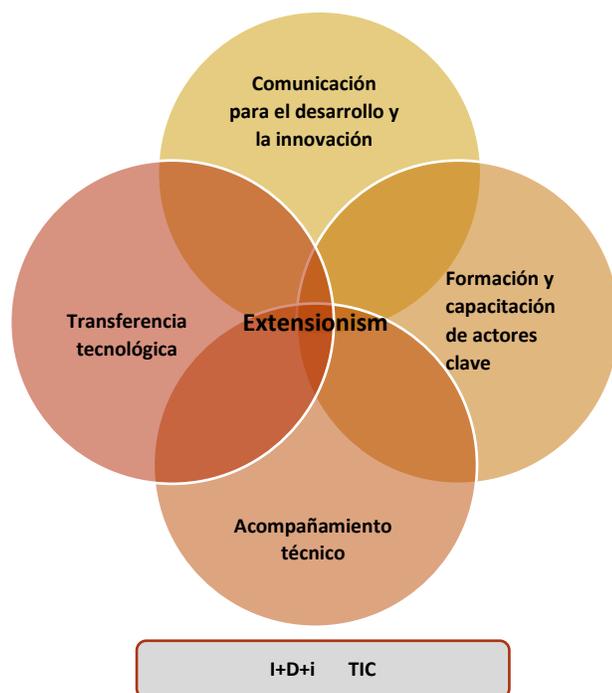


Figure 1. Essential components of extensionism in Mexico. Source: GIE, (2015). I= investigation; D= development; i= innovation; TIC= information and communication technologies.

In Mexico, three segments of the rural population are defined, to which the governmental effort of the extension programs is focused. Which are summarized in Table 1.

Table 1. Typologies of producers in Mexico, with their characteristics and destination of production, defined by the GIE (2015). Mexico.

Typology	Approach	Priority
Self-consumption (peasant agriculture)	<ul style="list-style-type: none"> • Territorial approach • Construction of a social enterprise • Dialogue and exchange of knowledge • Capacity building • Systemic analysis/life strategies 	<ul style="list-style-type: none"> • Food safety • Conservation of biodiversity (environmental services, genetic resources, etc.)

Typology	Approach	Priority
Productive potential (peasant agriculture)	<ul style="list-style-type: none"> • Production • Production • Financing • Integration to the value chain 	<ul style="list-style-type: none"> • Extensionism with a multidisciplinary approach (network of specialists) • Conservation of biodiversity (environmental services, genetic resources, etc.)
Large producers	<ul style="list-style-type: none"> • Incentives • Integration with other strata 	<ul style="list-style-type: none"> • Permanent support to the PSP; PSP development on strategic issues • Flexible incentives/policies • Promote national seeds

Source: GIE (2015) based on data and classification of SAGARPA.

Based on the foregoing, it can be seen that there are clearly defined needs and areas of opportunity for the aforementioned segments, in order to carry out extension work duly differentiated by the technological gradient and the typology of the producer, farmer, farmer or rancher.

Recommendations of the GIE

In order to have greater scope in the levels of accompaniment, technology transfer and adoption of technologies, the public sector must develop the national strategy of rural extension based on innovation with an inclusive character. Integrate in the new extension the character of a greater coverage based on the targeting of key actors. Identify local leaders to support communication strategies that facilitate the exchange of knowledge and expertise. Implement administrative and operational mechanisms that ensure that the public budget for extension is exercised according to the agricultural production cycle. Complement public extension services with the participation of non-state actors, especially in marginalized areas. Promote a comprehensive approach to care for rural complexity through the integration of multidisciplinary teams rooted in the communities (Table 2).

Build new marketing schemes, creating direct exchanges between producers, establishing funds for collection and marketing of surpluses. Reassess the role of the extension agents, giving certainty to their professional work through timely and systematic payment. Ensure that technical support is provided systematically in a timely manner; contemplating different aspects of life in rural areas. Review the training processes of technicians in the country's universities, taking into consideration the development of technical skills, but also social skills, especially for the management and resolution of conflicts and the daily problems of farmers. Promote a results-oriented culture, integrating coverage indicators and a monitoring and evaluation system. In addition, it would be very convenient to establish a support platform that trains, assists and accompanies, monitors and evaluates the extension agents, in any case it will be necessary to guarantee the protection of genetic resources (native seeds) of family farming (Table 2).

Table 2. Philosophical, methodological and operative principles that should be taken into account in extensionism in Mexico, defined by the GIE (2015). Mexico.

Philosophical	Methodological	Operatives
<ul style="list-style-type: none"> • Systemic approach • Territorial approach • Research and extension on demand, which solves problems UP. • Dignification of the field as an economic activity • Sustainability • Governance • Agency of the producers • Social inclusion • Valuation/respect for diversity • Market orientation • Reassess family and peasant agriculture • Market orientation and value chains 	<ul style="list-style-type: none"> • Multi-focus and multi-method extension • Orientation to processes and results • Local, multidisciplinary teams • Dialogue of knowledge • Innovation management oriented towards competitiveness • Inter-institutional linkage • Business management processes • Linking applied research with producers 	<ul style="list-style-type: none"> • Alignment of programs and policies • Use of existing infrastructure • Technology menu • Professionalization of extension agents • Networking • Communication for development and innovation • Training and monitoring of key actors • TIC

Source: GIE (2015).

Learned lessons

Extensionism must emphasize the improvement of the quality of life of producers and their families in an integral manner and not only focus their efforts on increasing agricultural production. It should promote that the Processes are participatory and long-term, as well as the use of farmer-to-farmer methodologies accompanied by training strategies that use simple, practical and everyday language and where the importance of young people and rural women is highlighted. improve the impact and ensure the sustainability of the interventions.

Acknowledgments

The authors express their gratitude to the International Maize and Wheat Improvement Center (CIMMYT) and MasAGRO for their sponsorship and support for the GIE work sessions and for the culmination of the working document on the basis of this contribution and intellectual academic effort.

Grupo Interinstitucional de Extensionismo



Cited literature

- Cadena, I. P.; Camas, G. R.; Rodríguez, H. R. F.; Berdugo, R. J. G.; Ayala, S. A.; Zambada, M. A.; Morales, G. M.; Espinosa, P. N. y López, B. W. 2015. Contribuciones del INIFAP al extensionismo en México y la gestión de la innovación. *Rev. Mex. Cienc. Agríc.* 6(4):83-895.
- Christoplos-Lan, 2010. Mobilising the potential of rural and agricultural extension. Food and Agriculture Organization of the United Nations. Office of Knowledge Exchange, Research and Extension, Rome. 34 p.
- Freire, P. 1998. ¿Comunicación o extensión? Siglo XXI de España Editores, SA. Brazil. 1ª. (Ed.). México Siglo XXI. 108 p.
- Hellin J. 2012. Agricultural extension, collective action and innovation systems: lessons on network brokering from Peru and Mexico, the journal of agricultural education and extension, the journal of agricultural education and extension, competence for rural innovation and transformation. 18(2):141-159.
- Khalil, A. H. O.; Ismail, M.; Suandi, T. and Silong, A. D. 2008. Extension worker as a leader to farmers: influence of extension leadership competencies and organizational commitment on extension workers' performance in Yemen. *The J. Inter. Soc. Res.* 1(4):368-387.
- Karbasioun, M.; Mulder, M. and Biemans, H. 2007. Towards a job competency profile for agricultural extension instructors: a survey of views of experts. *Human Res. Develop. Inter.* 10(2):137-151.
- Kittrell-Ben, U. 1974. Result demonstration technique-history, philosophy, and contemporary nature. *Journal of Agronomy Education of the Journal Series of the North Carolina State University Agricultural Extension Service, Raleigh, North Carolina, USA.* 3(138):5

- Leeuwis, C. y Van, B. A. 2004 *Communication for rural innovation: rethinking agricultural extension*. Third Edition. London: Blackwell. ISBN 0-632-05249-X. 3-18 pp.
- López, A. F. y Castro, I. J. P. 2010. Redimensionamiento del extensionismo agrícola como práctica educativa comunitaria ante los embates neoliberales: bases conceptuales empezando con un diagnóstico local. *Rev. Científi. UDO Agríc.* 10(1):88-93.
- Meinzen, D. R.; Quisumbing, A.; Behrman J.; Biermayr, J. P.; Wilde V.; Noordeloos, M.; Ragasa C. and Beintema, N. 2011. *Engendering agricultural research, development, and extension*. Washington: International Food Policy Research Institute. <http://www.ifpri.org/sites/default/files/publications/rr176.pdf>.
- Muñoz, R. M. y Santoyo, C. V. H. 2010. Del extensionismo a las redes de innovación. *In: Aguilar, Á. J. J.; Reyes, A. C. y Rendón, M. R. (Coord.). Del extensionismo agrícola a las redes de innovación*, CIESTAAM, Universidad Autónoma Chapingo, México. 31-69 pp.
- OCDE. 2011. *Análisis del extensionismo agrícola en México*. Organización para la Cooperación y el Desarrollo Económico, París. 33 p.
- Qamar, K. M. 2005. *Modernizing national agricultural extension systems: A practical guide for policy-makers of developing countries*. Rome: Food and Agriculture Organization of the United Nations. <http://ftp.fao.org/docrep/fao/008/a0219e/a0219e00.pdf> 15.
- Rodríguez L; La O, M.; Fonseca, M.; Guevara, F.; Hernández, A. y Jiménez, M. 2009. Extensionismo o innovación como proceso de aprendizaje social y colectivo. ¿Dónde está el dilema? *Rev. Cubana Cienc. Agríc.* 43(4):387-394.
- Rogers, M. E. 1983. *Diffusion of innovations*. Third edition. Nueva York: The Free Press. 134-149 pp.
- Sulaiman, V. and Davis, K. 2012. The 'new extensionist': roles, strategies, and capacities to strengthen extension and advisory services. *Global Forum for Rural Advisory Services, GFRAS*. 24 p.
- Swanson, B. E.; Bentz, R. P. and Sofranko, A. J. 1997. *Improving agricultural extension: a reference manual*. ISBN 92-5-104007-9 FAO. Rome. 220 p.
- Swanson, B. and Rajalahti, R. 2010. *Strengthening agricultural extension and advisory systems: procedures for assessing, transforming, and evaluating extension systems*. Agric. Rural Develop. Disc. Paper No. 44. Washington D.C. World Bank. 206 p.
- Zijp-Willem. 1992. *Agricultural Delivery Systems*. <http://www.rrojasdatabank.info/12agrisym/agrisym67-88.pdf>.