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# Small-scale farmers' attitudes and perceptions toward associations: an exploratory analysis at the central zone of Chile

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**ABSTRACT**: Small-scale farmers are essential food suppliers, especially in developing countries, but they face many constraints that limit their productivity and returns. Associating with other farmers (for instance, through cooperatives) has been shown to be a strategy to mitigate these constraints; however, there are limitations in farmers' participation and commitment to associations. This research explored small-scale farmers' attitudes and perceptions of associations. This paper considered the district of Cauquenes, a rural area in central Chile. A total of 71 small-scale farmers were surveyed. The data were processed using descriptive, multivariate, and qualitative techniques. The results showed that the farmers had limited knowledge of and experience with associations. They also did not see participation in an association as necessary for improving their business outcomes. They were also reluctant to accept a possible loss in decision-making power or the possibility of being scammed or tricked. The factors underlying farmers' attitudes toward associations were "Uncertainty of economic benefits" (23.3% of variance), "Technical–economic limitations perception" (15.2%), "Distrust" (10.8%), and "Individualism" (9.8%). These results suggested that policies are needed to improve farmers' experience with and knowledge of associations, considering the cultural variables that affect distrust and focusing on existing uncertainties. The associative processes need to allow for progressive commitment, expedite tangible results, and provide continuous technical and motivational support.
**Key words**: associations, cooperatives, attitudes, perceptions, small-scale farmers, Chile.

## Atitudes e percepções de pequenos agricultores em relação a associatividade: um estudo exploratório da zona central do Chile

**RESUMO**: Os pequenos agricultores são essenciais para o abastecimento de alimentos, especialmente nos países em desenvolvimento, mas enfrentam muitas restrições que limitam sua produtividade e retorno. A associação com outros agricultores (por exemplo, por cooperativas) tem se mostrado uma estratégia para mitigar essas deficiências, no entanto, há entraves na participação e comprometimento dos agricultores com as associações. O objetivo desta pesquisa é explorar as atitudes e percepções dos pequenos agricultores em relação às associações. Para isso, consideramos o caso do distrito de Cauquenes, uma área rural no centro do Chile, em que se entrevistou um total de 71 pequenos agricultores. Os dados foram processados por meio de técnicas descritivas, multivariadas e qualitativas. Como resultados, os agricultores têm um conhecimento e experiência limitados sobre as associações e, além disso, não entendem a relevância do vínculo social como uma alternativa para melhorar o seu desempenho. Por outro lado, relutam em uma possível perda de poder decisório, bem como em serem enganados. Os fatores subjacentes às atitudes dos agricultores em relação às associações foram "incerteza dos benefícios econômicos" (23,3%), "percepção de limitações técnico-econômicas" (15,2%), "desconfiança" (10,8%) e "individualismo" (9,8%). Esses resultados nos demonstram serem necessárias políticas que promovam o conhecimento direto, concreto e experiencial dos agricultores sobre o associativismo, com foco nas incertezas existentes. Os processos associativos devem estar atrelados a compromissos progressivos, com foco em resultados tangíveis e suporte contínuo, não apenas técnico, mas também motivacional.
**Palavras-chave**: associatividade, cooperativas, atitudes, percepções, pequena agricultura, Chile.

## INTRODUCTION

Small-scale farms, defined as those with less than 2 hectares, occupy only 12% of the total agricultural land worldwide, but they are responsible for 35% of the world's food production (LOWDER et al., 2021). Despite their importance for food supply, especially in developing countries, small-scale farmers are constrained in their access to natural and productive resources, markets, financial services, extension and advisory services, and digitalization, which results in poverty and vulnerability (FAO, 2021).

Empirical research has shown that the association of farmers, in a cooperative, for instance, improves retail prices, productivity, and technology adoption (GRASHUIS & SU, 2019). In this, the concepts "associativity" and "cooperativism" are frequently used interchangeably. However, both terms are complementary rather than mutually exclusive. Associativity is a collective work process that,

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under shared principles and values, seeks common objectives related to productive, organizational, and/or commercial aspects (RODRÍGUEZ & RAMÍREZ, 2016). A cooperative is an autonomous and independent self-help organization with voluntary and open association, democratic control by members, and equitable contribution in capital (RODRÍGUEZ-MIRANDA et al., 2021).

According to the existing literature, horizontal integration in agricultural chains (through cooperatives or other forms of association) increases farmers' access to financial services, technology, and market information; and consequently, improves farmers' returns (ANDREI et al., 2019). Farmers' participation in and commitment to associations is limited; however, due to their attitudes and perceptions, often related to their objective characteristics and situation, including farm size and market insertion (GRASHUIS & SU, 2019).

Understanding farmers' behavior is a matter of interest in the field of rural psychology, especially as it relates to rural development. One of the central topics of debate has been farmers' cooperation and associative processes (LANDINI et al., 2021). Although, small-scale farmers are far from homogeneous (FAO, 2021), following the classical concept of "habitus" (BOURDIEU, 1984), it can be assumed that a group that shares a social, economic, and cultural context, has comparable views. Similarly, the FAO (2015) stated that public policies directed at supporting small-scale farming should address not only their objective situation but also their attitudes.

This paper follows the definition of attitude laid out in VERPLANKEN & ORBELL (2022), in which it is an individual evaluation of behavior and its consequences. Attitudes result from the interaction of affective factors, such as feelings or emotions, and cognitive factors, such as thoughts, beliefs and attributes, and behavior (HADDOCK & MAIO, 2008). We also consider farmers' perceptions, as the way they think about a specific issue. Using this approach, we can explore farmers' evaluations of associations and their expected resulting behaviors. This type of insight allows for more suitable interventions, increases farmers' self-knowledge, and, following LANDINI (2016), improves the depth of understanding that extensionists and consultants have of farmers.

This research explored small-scale farmers' attitudes and perceptions about associations by describing their attitudes, identifying the factors that form them, and the advantages and disadvantages of associating perceived by farmers. Our research takes place in central Chile, specifically in the district of Cauquenes (35°58'00" S, 72°21'00" W) in the Maule Region. This location was selected because its farmers are particularly vulnerable. Cauquenes has a population of 44,253 inhabitants, 18.91% of which are over 65 years old, well over the national average of 12.49%, which suggested significant aging resulting from youth migration. According to data from the CASEN 2020 survey from the Chilean Ministry of Social Development, 13.12% of the population of the district was below the poverty line, well over the national average of 10.8%. According to data from the Library of the National Congress, 86% of the companies in Cauquenes are micro-sized, and 29% are in the agricultural sector. Although, agriculture is still the most important sector in the Cauquenes economy, it has been losing relevance in recent years, especially in terms of employment. In sum, Cauquenes is a district where we can assume that small-scale farmers face intense constraints, so the cooperation and association between them might be especially interesting.

## MATERIALS AND METHODS

The data analyzed in this article were obtained through a survey conducted between September and October 2020. The sample consisted of 71 small-scale farmers in the district of Cauquenes, chosen by convenience. This non probable sampling is suitable when randomization is problematic because the population is too large, and when the objective is to generate an explorative analysis that is not unquestionably generalizable to the whole population (ETIKAN et al., 2016). The randomness of the sample reduces biases and increases the validity of inferences drawn from the survey. Nonetheless, convenience sampling can deliver accurate results when the population is homogenous; for instance, if they share the same occupation and location, generalizability increases (JAGER et al., 2017). When the objective is to implement descriptive, not causal and inference, the reliability of a non-probabilistic sample for a homogeneous population is high (KOHLER, 2019).

The survey was composed of the following sections: i) personal characteristics of the farmers and socio-demographic profile, ii) technical and production features, iii) farm management and commercialization, iv) participation in associations, v) statements regarding attitudes toward associativity, and vi) perceived advantages and disadvantages of associativity. Multiple-choice, closed questions were used for items (i) through (iv), and two open-

response questions were used for (vi). The answers to (v) were in accordance with a 5-level Likert scale (1: "completely disagree", 2: "disagree", 3: "indifferent", 4: "agree", and 5: "completely agree"). The design of the questionnaire follows the experience of previous research by the authors on small-scale farmers' characteristics and attitudes, as well as a process of review of related literature.

The information obtained from the survey was first analyzed using descriptive statistics. This was followed by multivariate analysis techniques applied to the results of farmers' attitudes. Principal component factor analysis, which helps reduce the volume of information derived from a large set of variables, was used (JOLLIFFE, 2002). Prior to applying factor analysis, Bartlett's sphericity test and the Kaiser–Meyer–Olkin (KMO) index were estimated to determine the sample adequacy for that method (MALHOTRA, 2004). SPSS software was used. After being identified, the variance percentages explained by each variable were determined, and the factors were interpreted. The answers to the open questions were transcribed, and then content analysis was applied. In this process, the researcher extracts the most relevant information, develops concepts, and establishes relationships, helping to understand the phenomenon under study (GLASER & HOLTON, 2004; SCHETTINI & CORTAZZO, 2015). For this, Atlas.ti 7 software was used.

## RESULTS AND DISCUSSION

*Descriptive analysis of the sample*

Thirty male and forty-one female farmers were surveyed. The average age was 58.4 years old. Of the respondents, 15.5% had not completed any level of formal education, 57.7% only completed elementary school, 21.1% finished secondary school, 4.2% finished technical education, and only one participant (1.4%) completed university (Table 1). A high percentage of women were surveyed compared to the expected demographics, considering that in 2021, only 46.19% of the beneficiaries of the National Institute of Agricultural Development (INDAP), the main public institution promoting small-scale farming in Chile, were women. The gender composition of the sample suggested a high presence of situations that are common for women in small-scale farming in Chile, such as reduced access to resources and commercialization channels, and the combination of farm and care work (CID et al., 2017; CORTES et al., 2017; RENGIFO et al., 2022). The average age in this sample was slightly higher than has previously been found in research on farmers in central Chile, which shows an average age of 50 to 55 years (BOZA et al., 2018, 2022). The aging of farmers can be explained by the rural–urban migration of young people, a process that is expected to continue. According to the Chilean National Institute of Statistics, 13.4% of the population in Chile in 2002 was rural, and in 2017, 12.2% was rural; it is estimated that by 2035, it will be only 10.9% (INE, 2018, 2019). In Cauquenes, 18.1% of the population listed in 2017 was registered in rural areas (INE, 2018). The educational level was considerably lower than the national average reported in the CASEN 2020 survey, even when only the older, rural population was counted.

Of the farmers, 66.2% had a farm size less than 0.5 hectares. Most of the farmers owned their own land (78.9%), and 11.3% rented. Additionally, most of the farmers (63.4%) had greenhouses. Furrow irrigation was the most common irrigation method, and only 30.98% used technical irrigation. Of the farmers, 59.2% did not have access to agricultural machinery. Even when they did not have organic certification for their products, 63.4% of the farmers said they did not use industrial pesticides (Table 2).

Only 15.5% of the respondents had access to a computer. In contrast, 94.4% used a cell phone (Table 2). Technological changes in agriculture have often excluded small-scale farmers (TRIGO & ELVERDIN, 2020). Specifically, the lack of training and an unfavorable attitude have been shown to reduce the use of Information and Communication Technologies (ICTs) in Chilean small-scale farming (MORA et al., 2012). The COVID-19 pandemic highlighted the key role that ICTs play in agriculture

Table 1 - General characteristics (gender, age, and education) of the surveyed farmers.

| Category | Frequency | Percentage |
|---|---|---|
| *Gender* | | |
| Male | 30 | 42.3 |
| Female | 41 | 57.7 |
| *Age* | | |
| < 25 years old | 0 | 0 |
| From 25 to 55 years old | 31 | 43.6 |
| > 56 years old | 40 | 56.4 |
| *Education level* | | |
| None | 11 | 15.5 |
| Elementary School | 41 | 57.7 |
| High School | 15 | 21.1 |
| Technical Education | 3 | 4.2 |
| University | 1 | 1.4 |

(FAO & ECLAC, 2020). Consequently, the low level of digitalization of small-scale farmers might contribute to further exclusion.

For 74.6% of the respondents, their farm was their main economic activity. The average net monthly farm income is less than 1,250,000 Chilean pesos (1,323 USD, 12-10-2022). Of the farmers, 70.4% used their own assets as their main source of funding, while 20.8% used public subsidies. Access to private financing was almost non-existent. Credit constraints are common for Chilean small-scale farmers. This puts their development at risk, as there has been shown to be a positive relationship between access to credit and technology adoption (JARA-ROJAS et al., 2020; JORDÁN & SPEELMAN, 2020). At the time of the survey, 49.3% of the respondents received consulting services from INDAP. The Local Development Program (PRODESAL) is the most common extension program to which they had access. PRODESAL farmers are organized into Communal Operating Units, which are groups of variable sizes linked by characteristics such as their interests, productive vocation, identity, geographic proximity, and social and productive interrelations (BOZA & JARA-ROJAS, 2018).

Lettuce, tomato, chard, cilantro, parsley, and sweet corn were the most common vegetables grown by land area. On-farm sales and open-air markets were the principal commercialization channels for the respondents. These results differed from the conventional value chain for small-scale vegetable producers in Chile, where farmers usually sell to intermediaries directly from their farm, or at whole sale markets (GAITÁN-CREMASCHI et al., 2020).

Table 2 - Performance related to Information and Communication Technologies, technical facilities, and associations of surveyed farmers.

| Category | Yes | % | No | % |
|---|---|---|---|---|
| Access to cell phone | 67 | 94.4 | 4 | 5.6 |
| Access to computer | 11 | 15.5 | 60 | 84.5 |
| Access to internet connection | 32 | 45.1 | 39 | 54.9 |
| ----------*Technical and productive facilities*---------- | | | | |
| Availability of greenhouse | 45 | 63.4 | 26 | 36.6 |
| Use of technical irrigation | 22 | 31 | 49 | 69 |
| Access to machinery | 29 | 40.8 | 42 | 59.2 |
| Use of industrial pesticides | 26 | 36.6 | 45 | 63.4 |
| Access to technical advisory | 35 | 49.3 | 36 | 50.7 |
| ----------*Associations*---------- | | | | |
| Identification of a nearby one | 21 | 29.6 | 50 | 70.4 |
| Participation | 4 | 5.6 | 67 | 94.4 |

Specifically on associations, our results evidenced a clear lack of knowledge of the possibilities at their territory and, consequently, marginal participation. Of the respondents, 70.4% were not able to identify any nearby farmers' associations, and only 5.6% of them participated in one (Table 2). This group all participated in the same cooperative, Hortalizas de mi Casa (Vegetables from my Home). This cooperative was established in 2019 in Cauquenes with five small-scale vegetable growers as its partners, and a production totaling a little more than one hectare, half with greenhouses. The cooperative has been supported by INDAP through the Economic Associativity Program, which allows its partners to receive free specialized consulting, funding to build their own processing facilities and access equipment. The objective of the program is to provide skills and support for the commercialization of their products.

*Assessment of statements referring to attitudes using factorial analysis*

Respondents did not perceive associations as necessary for success in their businesses. In fact, the most valued statement was: "I can have a good economic performance whether or not I belong to an association" (4.72, average score). The statements "If I am asked to invest to be part of an association, I would need the return to be immediate" and "In associations, there is always a member who takes advantage of others" also had a high level of agreement (4.15 and 4.10, respectively) (Table 3). This is consistent with the results of ROSSING et al. (2020), who showed that in vegetable value chains in central Chile, the lack of trust between the participants – small-scale farmers included – is high.

Furthermore, farmers considered acting individually to be more efficient for them. The statements "The most efficient way to sell my products is independently" and "I see my interests related to my production as individual" were evaluated highly by the surveyed farmers (4.69 and 4.49, respectively) (Table 3). This contrasts with existing evidence, according to which farmers' cooperation leads to better access to market information and counterbalances the negative economic impacts of scarce market power (ANDREI et al., 2019). The respondents gave one of the lowest scores registered from the survey to the statement: "I would have personal conflicts selling my products together with other farmers" (2.24) (Table 3).

The contradiction between the perceptions of the farmers surveyed and those of farmers belonging to associations may be due to a lack of knowledge

Table 3 - Evaluation of association-related statements by surveyed farmers according to a 5-level Likert scale[1].

| Statement | Mean ($\bar{x}$) | Standard deviation(SD) |
|---|---|---|
| Associativity between farmers is beneficial only for some of its members | 3.49 | 1.85 |
| I see my interests related to my production as individual | 4.49 | 1.31 |
| In associations, there is always a member who takes advantage of others | 4.10 | 1.42 |
| I can be politically persecuted for belonging to an association | 2.49 | 1.66 |
| I do not join an association because I prefer to work as I always have | 3.79 | 1.81 |
| I would have personal conflicts selling my products together with other farmers | 2.24 | 1.79 |
| The most efficient way to sell my products is independently | 4,69 | 1.05 |
| My production does not meet the inclusion requirements of an association | 3.58 | 1.85 |
| My equipment is not as modern as that of farmers who work cooperatively | 3.85 | 1.76 |
| It is not key to be part of an association to access to new inputs and technologies | 2.65 | 1.86 |
| I am not interested in adding value to my products | 3.23 | 1.98 |
| Associating with other farmers would not mean any improvement for my current economic situation | 3.52 | 1.82 |
| If I am asked to invest to be part of an association, I would need the return to be immediate | 4.15 | 1.62 |
| Associations are not financially stable | 3.49 | 1.47 |
| I can have a good economic performance whether I belong to an association | 4.73 | 0.88 |

[1]1: "completely disagree", 2: "disagree", 3: "indifferent", 4: "agree" and 5: "completely agree".

of the former. In fact, as mentioned previously, most of the respondents could not identify any association close to them, and few belonged to one. Some of the statements, which were assessed with indifference or uncertainty by the respondents, might support this assumption. For instance, "Associating with other farmers would not mean any improvement for my current economic situation" (3.52), "Associations are not financially stable" (3.49), and "Associativity between farmers is beneficial only for some of its members" (3.48) (Table 3). As previous research on small-scale farmers in central Chile shows, reluctance to change is intrinsic to them, especially for those who are older and have lower educational levels (BOZA et al., 2018, 2020). If farmers do not clearly identify the potential benefits of associating, it is very difficult for them to decide to take that step. In fact, the statement "I do not join an association because I prefer to work as I always have" had some agreement (3.79) (Table 3). Therefore, our results evidence that the surveyed farmers were not completely negative toward associations, but they did not seem to be sufficiently positive to motivate them to participate.

The respondents expressed uncertainty as to whether their current production would meet the requirements for being part of an association. The statements "My production does not meet the inclusion requirements of an association" (3.58), and "My equipment is not as modern as that of the farmers who work cooperatively" (3.85) were valued with indecisive agreement. Therefore, in addition to not identifying clear benefits, there was a perception that there may be objective barriers to entry into an association. In contrast, they disagreed with the statement, "It is not key to be part of an association to access to new inputs and technologies" (2.65) (Table 3). In fact, preferential access to credit, inputs, and shared facilities are the main advantages that farmers participating in cooperatives in Chile perceive (RODRÍGUEZ-MIRANDA et al., 2021). Farmers might then be losing opportunities to improve their resources because of undervaluing their own situation and not because they do not see that those opportunities could exist.

One of the statements with the lowest evaluation was, "I can be politically persecuted for belonging to an association" (2.24) (Table 3). This showed that the respondents seemed to not consider the stigmatization and difficulties that cooperatives experienced during the 70s and 80s in Chile (RODRÍGUEZ-MIRANDA et al., 2020).

The principal component analysis based on answers to these statements showed that the farmers' attitudes could be explained by 59.1% of the variance for the following four factors: "Uncertainty of economic benefits" (23.3%), "Technical–economic limitations perception" (15.2%), "Distrust" (10.8%), and "Individualism" (9.8%). Their specific composition is detailed in table 4. These results reaffirmed that surveyed farmers' did not clearly

see the benefits of being part of an association for their economic revenues, and they perceived certain technical and economic potential limitations. In addition, there was marked distrust in working with others, as well as a tradition of working individually.

*Perceived advantages and disadvantages of associationism*

When it comes to the advantages and disadvantages that respondents identified regarding participation in an association, only 37 farmers gave an opinion. This is consistent with the limited knowledge that the farmers surveyed had about associations. The most common advantage, mentioned by 20 farmers, was improving commercialization by securing sales and opening new markets. The second was access to public support, which was mentioned by 15 farmers. The third was cooperating to purchase productive inputs, mentioned by 7 farmers. Other advantages mentioned, both by 4 farmers, were sharing knowledge among farmers and increasing their economic benefits. The most mentioned disadvantage (13 farmers) was that being part of an association would restrict their independence. Eleven respondents mentioned, as further disadvantages, conflicts between associates and an unequal distribution of benefits. Related to this, another disadvantage perceived by the respondents was dissatisfaction with the economic benefits that come from participation in an association. The demand for time (8) and money (4), production requirements (8), distrust in the board of the association (6), and lack of commitment of the associates (3) were other disadvantages that were mentioned.

Beyond these results, a lack of knowledge about the associations was evident among the respondents. Almost half of the farmers surveyed did not mention any advantages or disadvantages related to participating in an association. This is a key finding of our research, as a significant lack of knowledge, combined with a reluctance to change, could easily derive disregard or even rejection. The main advantages mentioned by the surveyed farmers—commercialization and access to public support and inputs—are coherent with previous research and with the Chilean context. RODRÍGUEZ-MIRANDA et al. (2021) showed that, after analyzing the Chilean case, farmers who participated in associations, and specifically in cooperatives, perceive clear advantages in terms of commercialization, including higher and more stable prices, as well as in the acquisition of inputs, with lower costs and payment facilities. In the last decade, public support for farmers' associations has significantly increased in Chile, even through specific programs and strategies (RODRÍGUEZ-MIRANDA et al., 2020); therefore, farmers perceived that a cooperative would make easier for them to receive public support. In fact, the literature shows that access to subsidies is a driver for farmers to associate (ANDREI et al., 2019). The disadvantages perceived agree with the results of the principal

Table 4 - Composition of factors that explain farmers' attitudes toward associations.

| Factor | % of variance | Weight | Factor variable |
|---|---|---|---|
| Uncertainty of economic benefits | 23.3% | 0.792569 | I can have a good economic performance whether I belong to an association |
| | | 0.643093 | I am not interested in adding value to my products |
| | | 0.528166 | Associating with other farmers would not mean any improvement for my current economic situation |
| Technical-economic limitations perception | 15.2% | 0.903962 | My equipment is not as modern as that of farmers who work cooperatively |
| | | 0.873908 | My production does not meet the inclusion requirements of an association |
| | | 0.441676 | If I am asked to invest to be part of an association, I would need the return to be immediate |
| Distrust | 10.8% | 0.750256 | In associations there is always a member who takes advantage of others |
| | | 0.645382 | Associations are not financially stable |
| | | 0.516905 | I can be politically persecuted for belonging to an association |
| | | 0.475290 | Associativity between farmers is beneficial only for some of its members |
| Individualism | 9.8% | 0.869707 | It is not key to be part of an association to access to new inputs and technologies |
| | | 0.607464 | The most efficient way to sell my products is independently |

*Bartlett's sphericity test P = 0.000.
**Kaiser–Meyer–Olkin index (KMO) = 0.625457.
***Total explained variance = 59.0921%.

component analysis, according to which distrust, individualism, and uncertainty are key factors in the attitudes of the surveyed farmers toward participating in an association.

## CONCLUSION

The small-scale farmers surveyed were characterized by a high average age, low level of formal education, high presence of female farmers, and low access to productive resources and markets. Our results evidenced a clear lack of knowledge of the possibilities to associate in their territory and; consequently, marginal participation. Most of the farmers were not familiar with any farmers' associations in their territory, and just a few participated in one. They did not perceived being part of an association as necessary to improve their performance. They were reluctant to accept the possible loss of decision-making power they related to farmers' associations and thought they may be tricked or scammed. These attitudes were summarized into four factors: "Uncertainty of economic benefits" (23.3% of variance), "Technical–economic limitations perception" (15.2%), "Distrust" (10.8%), and "Individualism" (9.8%). These results showed that farmers did not clearly see the benefits of being part of an association on their revenues, and they perceived potential limitations. In addition, there was a marked distrust in working with others, as well as a long practice of working on their own.

Almost half of the farmers were unable to name any specific advantage or disadvantage related to participation in an association, reaffirming their limited knowledge of the issue. Those who could identify some advantages mentioned access to markets and public support most frequently. The disadvantages stated agreed with the attitudes, highlighting the restriction of independence, potential conflicts with other partners, and dissatisfaction with economic results and their distribution. The difficulties in identifying specific advantages of participating in associations, along with a general lack of knowledge and uncertainty, as well as a history of working on their own, suggested that for farmers, it might be counter intuitive or even a commitment that they do not actually seriously consider deciding to associate.

These results suggested that intervention policies should focus on revaluing farmers' associations, rather than the assistance focus of the traditional extension services, which very often seem to start from the assumption that farmers know the benefits of partnering, so what they need is the technical assistance to know how to deal with procedures (for instance, which are the administrative procedures to start or be part of a cooperative). Demonstrating expedited and tangible results is essential and requires direct, concrete, and experiential knowledge. Associative processes must display progressive commitment, guaranteeing the incorporation of the actors involved with not only technical support but also continuous motivation.

## DECLARATION OF CONFLICT OF INTEREST

The authors declare no conflict of interest. The founding sponsors had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript, and in the decision to publish the results.

## BIOETHICS AND BIOSSECURITY COMMITTEE APPROVAL

We the authors of the article entitled "Small-scale farmers attitudes and perceptions towards associations: an exploratory analysis at the central zone of Chile" declare, for all due purposes, the project that gave rise to the data presented has not been submitted for evaluation to the Ethics Committee of the University of Chile, but we are aware of the contents of Resolution No. 466, of December 12, 2012 of the Brazilian National Health Council "http://conselho.saude.gov.br/resolucoes/2012/Reso466.pdf" if it involves humans.

Thus, the authors assume full responsibility for the presented data and are available for to respond to questions if they should be required by the relevant authorities.

## AUTHORS' CONTRIBUTIONS

All authors contributed equally for the conception and writing of the manuscript. All authors critically revised the manuscript and approved the final version.

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