

# Motivation and values of farmers in Lebanon: a comparison between organic and conventional agricultural producers

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## 1. Introduction

Before the civil war (1975-1990) agriculture made a considerable contribution to the trade balance of the country, taking advantage of the strategic geographical position of Lebanon at the gateway to the Middle East. During the war agricultural activity was reduced to the bare minimum and, at present, the agricultural sector continues to face serious difficulties such as institutional, policy, technological, and financial resources constraints, resulting in the sector's low performance (FAO, 2012). Besides, since the Gulf war in the 1990s and now with the current tumultuous and unstable political situation in several Arab countries, the export of agricultural products is facing serious instability. Last but not least, the Syrian crisis is severely and negatively affecting the Lebanese economy. The economic repercussions and the unstable security situation have particularly

## Abstract

*In Lebanon, the agricultural sector suffers from both internal and external problems that opposed its development. Relatively high production costs, unregulated use of chemicals and the absence of extension services can be considered the most important in addition to groundwater pollution, high-level migration towards cities, lack of economic policy for internal and external market, and finally the inability of the government to finance the sector.*

*In this context, organic farming might be considered as a possible alternative to the current crisis of the sector, and could be a solution to many of the abovementioned problems. In an attempt to thoroughly understand why Lebanese farmers do not apply the organic methods of production, this paper illustrates the results of a study on farmers' motivations for adopting either the organic or the conventional farming practices. In order to carry out the research, the means-end approach (Reynolds and Gutman, 1988) has been applied. The analysis methodology traditionally used for consumer analysis has been modified and adapted to investigate the cognitive structures (objective networks) of 35 Lebanese farmers. The results help understand the reasons determining the choice of the type of agriculture to adopt and underlie the diversity of the motivations between organic and conventional farmers.*

**Keywords:** farmers' motivations, hard laddering, organic agriculture, means-end chain, values, Lebanon.

## Résumé

Au Liban, des défis de caractère interne et externe pèsent sur le secteur agricole et freinent son développement. Des coûts de production élevés, l'utilisation non réglementée des produits chimiques et l'absence de services de vulgarisation peuvent être considérés comme les principaux verrous qui s'ajoutent à la pollution des eaux souterraines, à l'importante migration vers les villes, au manque de politiques économiques pour le marché interne et externe et enfin, l'incapacité du gouvernement à financer ce secteur.

Dans ce contexte, l'agriculture biologique peut être considérée comme une alternative possible face à l'actuelle crise du secteur et pourrait être une solution aux nombreux problèmes évoqués précédemment. En vue de comprendre pourquoi les exploitants libanais n'adoptent pas le mode de production biologique, dans ce travail nous allons illustrer les résultats d'une étude sur les motivations qui amènent les exploitants à opter pour des pratiques agricoles biologiques ou bien conventionnelles. Afin de réaliser cette recherche, l'approche de la chaîne moyens-fins (Reynolds et Gutman, 1988) a été retenue. La méthodologie utilisée traditionnellement pour l'analyse des consommateurs a été modifiée et adaptée pour explorer le chaînage cognitif (réseaux objectifs) de 35 exploitants libanais. Les résultats permettent de comprendre les raisons qui déterminent le choix du type d'agriculture à adopter et expliquent la diversité des motivations entre producteurs biologiques et conventionnels.

**Mots-clés:** motivations des exploitants, hard laddering, agriculture biologique, chaîne moyens-fins, valeurs, Liban.

impacted the agriculture economy (FAO, 2014). The agricultural sector is threatened in terms of both livelihood opportunities and food production capacity (FAO and REACH, 2014).

Organic farming could be an interesting opportunity for the current Lebanese agricultural sector crisis and a solution to face many of the existing constraints of its farming system<sup>1</sup>. Though organic farming is still a small niche sector, it has registered a slow but steady development since its beginning in the 1990s. In 2013 there were 238 organic farmers, operating on a surface of 2,571 hectares (Pugliese *et al.*, 2014) representing 0.77% of the total agricultural land (FAO, 2012).

There are very few studies concerning Lebanese organic farmers and in particular the reasons which have encouraged them to adopt this particular

production method. This paper tries to understand more

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This paper is a joint effort of the authors and results have been analysed and discussed together. However, M. R. Bteich was responsible for "Organic Farming in Lebanon", S. Naspetti for "Research methodology" and "Results", and P. Pugliese for "Organic farmers' motivations in literature", N. Salame collaborated during the preliminary stages of data collection and to the first draft elaboration. The remaining parts are common.

<sup>1</sup> Lebanese farmers have small and fragmented land holdings (70% of farms are less than one hectare) exploiting only 20% of the total cropping area. They lack access to infrastructure (irrigation networks, agricultural roads, marketing outlets for agricultural and agroprocessed products) and have insufficient knowledge of modern techniques and environment-friendly practices. These conditions, coupled with high cost of production due to high costs of inputs, labour, and energy, result in low competitiveness of the agricultural products and in the agricultural trade deficit increase (FAO, 2012).

thoroughly the main motivations and the values, which are at the basis of the fundamental decisions made by Lebanese organic farmers, and also to compare these motivations with those of conventional farmers.

The main aim of the research was to understand the motivations of Lebanese organic and conventional farmers, as well as the barriers of the latter. Their cognitive structures (networks) were analysed to determine differences and similarities among different groups and to investigate their decision making process towards farming. In these networks we sought to identify the links between goals, motivations and farming techniques used. The results on farmers' cognitive structures at different levels of experience ('years of experience') are explored and discussed. Once motivations and barriers were identified, the following hypotheses were assessed:

H1: the length of experience in organic farming influences goals and cognitive structure of organic farmers.

H2: the cognitive structures of conventional and organic farmers are different both in terms of content and shape.

As far as the first hypothesis is concerned, it is not important just to understand the factors which encourage conversion, but rather the motivations that continue to favour that decision in the long term. On the other hand, for the second hypothesis, it is necessary to understand thoroughly whether the process of conversion to organic farming is connected with a specific tendency in farmers' choice behaviour or whether it has characteristics and contents absolutely independent from their motivational structure. The study of these factors results in a different definition of the communication strategies appropriate for favouring and promoting the development of organic farming in Lebanon. Results are discussed in the light of the characteristics and prospects of the Lebanese agricultural sector, with specific reference to the emerging organic sector.

This paper starts by giving a general overview of the state of the art of organic farming in Lebanon and in countries of the south and east coast of the Mediterranean. Then it reports some literature considerations concerning the results and approaches to this issue. Afterwards it illustrates the methodology used and the results of the survey carried out in Lebanon between 2003 and 2004 on organic and conventional farmers. Ultimately there are some considerations, associated to the results obtained and the context studied.

## 2. Organic Farming in Lebanon

Organic agriculture started in Lebanon in the early 1990s through private initiatives driven by environmental concerns and as a response to the negative impacts of conventional farming practices (Eid and Tleis, 2014). The growing demand for healthier products, by consumers aware of the harmful effects of pollution induced the organic growth. Its expansion was also supported by the initiative of some farmers and rich landowners who understood the environmental and health impact of agricultural chemical products.

Over time organic farming has gradually attracted the interest of various parties and institutions (Bteich, 2004), and has been included as a specific component in the recently developed strategy by the Ministry of Agriculture (MoA) under the framework of the EU-funded Agriculture and Rural Development Programme (ARDP) (Ministry of Agriculture, 2014).

A National Organic Law was submitted to the Parliament in 2005, but it has not been approved yet. Due to this delay, in November 2011 the MoA issued a ministerial decree (No 1033/1) to regulate the local organic production and processing. Other decrees, regulating the organic sector, were issued and a technical committee of nine members from different departments of the MoA was founded to regulate and monitor the organic sector. Currently, two certification bodies, IMC-Liban and SGS (Austria) are operating in the country (Eid and Tleis, 2014).

Lebanese organic farmers can essentially be divided into three main groups (Bteich, 2004). The first is made up of farmers who are well-informed and convinced about the underlying principles and the philosophy of organic farming. They are the pioneers of the Lebanese organic farming experience. The second group is made up of rich landowners, who pay attention to trends in western countries and can afford to experiment with new production techniques facing any possible initial losses in production. Finally the third group includes those farmers who take part in projects proposed by various national and international organisations operating in the field of rural development and environmental protection. These farmers follow to the letter the instructions they receive from the organisations.

For Lebanese organic farmers, contact with specialists and other farmers in the sector to exchange information and update their knowledge is possible mainly through the Non-Governmental Organisation (NGO) and the certification bodies operating in the country as well as in the recent years the technicians of the MoA. Even though the initial efforts for the sector development was driven by the private initiatives the public sector, mainly the MoA, started in the last decade to take concrete actions to boost the organic movement (Eid and Tleis, 2014).

The domestic market channels of organic products are mainly supermarkets with special corner for organic, specialised organic shops, farmers markets, health shops, fair trade shops, slow food shops, box schemes for indoor delivery (Healthy basket), restaurants and on-line delivery service (Nature at Home). The organic retail outlets are mainly located in the capital, and offer a wide range of local and imported organic products. The local organic products consist mainly of fresh fruits and vegetables, bread and bakery products, local traditionally processed food, eggs and chicken meat. The local production supplies only 25 to 30% of the Lebanese organic market need so the remaining 70% relies on imported goods from the US, UK, Brazil, Germany and France. The modest export of Lebanese or-

ganic products is carried out by Lebanese businessmen and is limited to some fresh products, eggs and traditional processed food to the Gulf countries, olive oil to UK, Italy and Austria and plantlets to France (Eid and Tleis, 2014). Lebanese organic consumers, generally habitual, aware and educated customers, prefer to eat local organic products in order to encourage Lebanese farmers. On the contrary, the non-organic Lebanese consumer, although aware of the risks of chemical substances for the health and keen on eating healthily, is still not well-informed about organic produce and often confuses it with fashionable so-called natural products (Bteich, 2004).

The American University of Beirut (AUB) has activated experimental activities and projects for training and assisting organic farmers. One of these, the Healthy Basket project, included the survey discussed in this paper.

To date the development of organic farming in Lebanon has been hindered by numerous difficulties, it appears to have considerable potential for growth, mainly related to the strengths of its agricultural sector as identified by FAO. Indeed Lebanon has adequate arable land; a Mediterranean climate suitable for early season fruit and vegetable production; an entrepreneurial local population and Lebanese Diaspora; and a strategic location between Europe and the Gulf states. It also has sufficient water resources to position itself in high-value fresh and processed horticultural crops for domestic consumption and export. These markets are attractive because they offer stable profit margins and strong growth potential (FAO, 2012). Other factors appear to be equally noteworthy for the development of Lebanese organic farming such as the widespread extensive farming systems in some regions, which are easier to convert to organic production, as well as the possibility to have access to information and know-how from local and international experts.

### 3. Organic farmers' motivations: some insights from selected research work

Organic farmers' motivations, attitudes and values have represented in these years a popular theme of research in organic farming literature. Several studies have analysed the factors affecting organic farmers' decision to adopt organic values and practices (Midmore *et al.*, 2001; Padel, 2001; Parra López and Calatrava Requena, 2005; Kallas *et al.*, 2009; Läßle and Van Resenburg, 2011). Various authors have simultaneously looked at both the driving factors and the barriers by proposing some interesting comparative work between organic and conventional farmers (Alexopoulos *et al.*, 2010; Kings and Ilbery, 2012). More recently, research work has increasingly focused also on factors influencing reversion to conventional (Sahm *et al.*, 2012). Based on this expanding body of knowledge, derived from previous research, some review papers have also been published (Geniaux *et al.*, 2010).

Padel (2001) – one of the pioneer works – categorises the

motivations for conversion to organic farming into two main groups. The first group is essentially linked to the agricultural activity itself and includes technical (improved soil fertility, erosion control, animal welfare) and economic-financial motivations (increased farm income, reduced production costs, better market opportunities and premium prices, farm income stability). The second group includes motivations, which are of a more personal nature and refer to health issues (reduction of risk for the producer/consumer resulting from the use of agro-chemicals) and other general aspects such as food quality, environment preservation and rural development. In a more recent paper, Padel (2008), summarising all the main factors influencing the conversion decision that are mentioned in the literature, identified three groups: personal factors (personal characteristics, organic farming knowledge and personal attitudes), farm-specific factors and external factors (e.g. organic farming relative profitability, institutional and social factors). Similarly, in their review of the economic literature, Geniaux *et al.* (2010) propose a threefold classification, namely, “motivations for conversion and values associated with the choices of organic farming”, “internal factors” - i.e. farm and farmer's characteristics - and “external factors”. The two latter categories are grouped into a broader one, named “observable drivers”. It is interesting to note that among the reasons frequently indicated by the farmers for adopting organic production methods there are several aspects which are traditionally associated with “farming” in general. For example, the desire to be independent of external conditioning, the possibility to live and work in a healthy and natural environment, the satisfaction that comes from facing technical challenges and earning respect and prestige, the possibility of becoming part of a community of people who share the same values, objectives and preoccupations (Gasson and Errington, 1993). For most farmers, agriculture is above all a lifestyle rather than a job or an economic activity. Starting from the end of the second world war the drive towards agricultural modernisation and intensification has determined changes which are often radical compared with traditional agricultural methods and has modified – both in real terms and in terms of individual and collective perception – the relationship between the farmer and agriculture, leading to a progressive loss of some of the important motives for farming (and for being a farmer) and inevitably generating the need – even in this case both individual and collective – for a full recovery of these motives. From this point of view, in various contexts organic farming seems to be a possible worthwhile alternative.

Beyond all categories and simplifications proposed, the analysis of the literature shows that the motivations expressed by the organic farmers are extremely varied (Padel, 2001). Trying to classify them and somehow assess the relevance of different classifications in different contexts is undoubtedly important. Trying to understand thoroughly their logic and implications is perhaps even more so.

Through a network of complex interactions various factors compete to favour or discourage the choice for organic farming, which appears to be closely linked to beliefs, perceptions and personal expectations rather than to particular demographic features or characteristics of the farm (Lockretz, 1997; Schneeberger *et al.*, 2002). From this perspective one can also get a deeper understanding of the distinction often made between organic farmers “*by choice*” and “*pragmatic*” organic farmers. Whereas, in the first group are usually included those converted for ethical, environmental and health reasons, and therefore farmers potentially more loyal to the philosophical ideals of organic farming. In the second group are farmers who consider organic farming as a worthwhile alternative to the modern agro-industrial system: for the increased income, which can be derived, and for the technical challenges it offers (Fairweather and Campbell, 1996; Fairweather, 1999). Although similar distinctions seem to offer valuable information and interesting suggestions for the design and implementation of support policies for the organic sector, they should be used with caution, so as to avoid excessive simplification and distorted interpretations of reality. Characterised by a certain amount of arbitrariness (Gasson and Errington, 1993), they risk to suggest actions which are not efficient or may even be counterproductive.

As underlined by Midmore and colleagues (2001), the motivations and priorities of organic farmers have changed over time. According to some authors (Rigby *et al.*, 2001) this phenomenon could also be attributed to the progressive *mainstreaming* of organic farming in the conventional agro-industrial system, as well as to the progressive reduction in hostility between the two systems and the consequent adoption of organic methods by farmers of the more “*pragmatic*” type. While pioneers often complained of problems associated with the application of conventional production methods, many more recent scientific contributions report, among the motivations of the new entrants, that farmers desire to take up the technical challenge which conversion to organic farming represents. Moreover, among the economic and financial motivations, the stability of the farm income, mentioned by pioneers, is not in the results of the surveys carried out on newly converted farmers, who indicate among their priorities the possibility to obtain better prices for their products and to have access to public conversion incentives (Midmore *et al.*, 2001).

As Padel (2008) points out the high prevalence of economic/financial motives observed by many authors – and often used as evidence for the worryingly progressive ‘conventionalisation’ of the organic sector and movement – may be a reflection of changing circumstances for farmers and should therefore more carefully interpreted by analysts and organic farming supporters.

Interestingly, after reviewing various studies on farmers’ reasons for reversion to conventional agriculture, Sahn *et al.* (2012) conclude that “(If) frustration with economic per-

formance of organic management is the main reason for reversion, it seems like that for these farmers economic motives played a major role in the decision to convert to organic farming as well”.

A number of studies in the literature analyse the attitude of conventional farmers towards organic farming and their potential willingness to convert, or propose a comparative analysis between organic and conventional farmers. These lines of research, too, have interesting implications for the design and implementation of effective and efficient support policies for the organic sector. This is the reason why many of these aspects were considered when the research framework was studied and the list of barriers/motivations was built.

Considering the specific geographical scope of the present paper, it appears important to point out that, for many years, a great share of research work investigating farmers’ motivations to convert has been mostly undertaken in developed countries. In more recent times, an increasing number of studies are also being carried out in developing countries contexts with varied, interesting results (Hattam and Holloway, 2005; Sivotwa *et al.*, 2009; Pastor *et al.*, 2011). As Karki *et al.* (2011) suggest, most of them, though, have adopted a narrow perspective, essentially focusing on farm and farmers’ personal characteristics; only a few included examination of farmers’ attitudes and motives (Sarker *et al.*, 2010; Karki *et al.*, 2011; Pornpratansombat *et al.*, 2011)

From the methodological point of view, the analysis of the existing literature also offers some interesting indications. Many studies use normative approaches and present quantitative surveys, on more or less representative samples, which are based on the use of questionnaires with lists of predefined motivations and/or barriers for conversion to organic farming, inspired by the results of previous research work. Most of these studies mainly respond to descriptive objectives and allow the quantification of the importance of the individual motivations/barriers in specific contexts. Less frequent alternative or complementary research and case studies have been carried out in order to understand the values and the deeper reasons, often a complex network of relations between the different factors and objectives, which underlie the choices and the behaviour of organic and conventional farmers. Nevertheless there is great interest in this type of research by policy-makers who require indications for a correct assessment of the propensity and the ability of farmers to favour or to hinder specific changes in agricultural systems and modern rural landscapes.

Although the values and the objectives of organic farmers are still a relatively unexplored field (Padel, 2001) numerous research contributions were carried out in order to analyse the behaviour of farmers who adopt agricultural practices favouring environmental conservation (Beedell and Rehman, 2000). Other studies concern the analysis of

the decision-making process (as a whole) and the improvement of farmers' managerial skills (Ohlmer *et al.*, 1998; Willock *et al.*, 1999; Nuthall, 2001). These fields of research are linked in many ways with organic farming.

The results of some previously mentioned studies (Fairweather, 1999; Darnhofer *et al.*, 2002) are also interesting since by adopting the ethnographical approach to the decision-making tree, these studies arrive at the definition of specific categories of organic (and conventional) farmers and at the identification, for each typology, of the logical structure of the principles and beliefs which motivate the behaviour.

More recently, Padel (2008) adopted the focus group approach to study the values and the views of organic producers (the established ones and new entrants) from different European countries. It was preferred to alternative methods (such as questionnaire-based surveys with large samples or in-depth interviews with individuals) for its capacity to produce a better participant interaction and a relaxed atmosphere, both considered as critical factors when dealing with abstract and sub-conscious concepts.

Furthermore, in order to get useful supplemental data and complementary insights, some authors also decide to adopt a mixed methods approach, combining quantitative and qualitative methods and tools. This could be particularly relevant, for example, in research contexts where important background issues are not widely known (Karki *et al.*, 2011).

For this survey of Lebanese organic and conventional farmers' motivations, the method of the means-end chain has been used. Few examples of the use of this type of approach are found in the literature (Demey *et al.*, 2002).

Unlike the decision-making tree approach, the results of which can be interpreted on the basis of specific economic theories in order to provide predictions concerning the behaviour of the groups of individuals studied, the means-end chain is much more general and can prove to be a much more powerful explicative tool, permitting thorough exploration of the cognitive structures and the relationships between the various objectives and the values of the individuals analysed. As Legrenzi (2001) illustrates, reinterpreting Simon's theories (1956) on limited rationality from a cognitive point of view, decisions may be explained not as processes derived from rigid calculations of utility, but as "processes of reason-based choices".

The difference between the Lebanese agricultural and rural context compared with the contexts – European, North American and Australian – which most of the existing literature in this field refers to made the present research work particularly interesting and challenging. It is even more so if we consider that studies and research papers on the values and objectives which influence decision-making and behaviour of farmers in South Mediterranean countries are still relatively few, though increasing.

## 4. Research methodology

Means-end analysis (Reynolds and Gutman, 1988), paired with laddering technique, is particularly used in marketing research as a qualitative investigation method. It is an explorative research methodology, which uses small samples and is usually applied to surveys concerning consumers. Means-end analysis does not only have the purpose of thoroughly understanding consumers' motivations. Actually it is of greater value when aimed at investigating the cognitive structures of the people involved in the survey. In our case indeed, the purpose was not only to understand the decision-making processes and the farmers' motivations, but also to investigate their networks of goals (or values) concerning farming (organic and non-organic) in Lebanon. This study was also aimed at exploring those factors perceived as barriers to a hypothetical conversion to organic farming.

For data collection the hard-laddering technique was used. This technique is based on written questionnaires where respondents have to produce ladders (sequences of goals) (Grunert and Grunert, 1995). The decision to use a written questionnaire was chosen by the need to reduce as much as possible both survey costs and time and to guarantee standardisation and simplification of the interview stage: specifically, due to the geographical spread of the farmers interviewed. The questionnaire was drawn up on the basis of the methodology by Walker and Olson (1991) to investigate the cognitive structures (networks of goals) of 35 Lebanese farmers (16 organic farmers and 19 conventional farmers, both groups interviewed were involved in a technical assistance programme run by the American University of Beirut, participating in the "Healthy Basket" project.). Previous literature was used to build up a list of starting goals. This list underwent pre-testing in Lebanon.

Being an explorative survey, the group of interviewees was chosen through quota sampling, so as to be as representative as possible of the various characteristics of Lebanese farmers and farms (from Akar in the north to Tyr in the south, and from the coast to the Bekaa region). The group of 16 organic farmers, divided equally by age (half were less than 40 years old) and time dedicated to farming (half part-time), involved both 9 recently converted (less than one year) and 7 experienced organic farmers. Of the interviewed farmers, 3 declared that they were part owners of the land, while 13 were owners. Ten farmers work on small farms – with less than one hectare of land – while the other six work on larger farms. Of the 19 conventional farmers, only 7 are under 40 years of age, 15 are full-time farmers, and 9 have been involved in farming for less than 10 years. Their farms predominantly produce fruit and vegetables. Only three produce cereals (2 organic and 1 conventional) and one farmer produces exclusively medicinal plants. Most of the interviewees (13) own the land that they work on, but in this case the farms are larger on average: seven farmers own one hectare or less while twelve have

larger areas.

The answers to the completed questionnaires were codified and processed by two independent judges. The index of reliability (Perrault and Leigh, 1989), applied to the coding procedure, ranged between 0.74 and 0.95, exceeding the recommended guideline (interrater reliability = 0.70). All disagreements were resolved by discussion. For a complete report on the elaboration of the data collected through the laddering interview technique, please see Naspetti and Zanolli (2005). MecAnalystPlus software – developed by Skymax-DG, with R. Zanolli and S. Naspetti, (<http://skymax-dg.com/mecanalyst/index.html>) – was used to create implication matrixes and Hierarchical Value Maps (HVM). Matrixes indicate how many times the concepts have been mentioned (either directly or indirectly) by the interviewee and the number of links made between one concept and another. The HVM is a graphical aggregate representation of these links, which shows the farmers' motivational structure and describes the chains of links between important goals.

The analysis of collected data resulted in identifying the cognitive structures of the individuals (networks of goals) concerning “doing organic farming”. Results were analysed and examined using a series of aggregate cognitive maps, illustrating the relevant relationships between the functional and psycho-social consequences related with organic farming practice and the farmers' instrumental and final values. These maps were codified on the basis of the questionnaires' responses.

## 5. Results

Two main farmers' groups have been considered – organic and conventional – and subsequently divided into homogeneous sub-groups according to their socio-economic and organisational features (age, size and type of farm management, level of experience and time dedicated to agricultural activity).

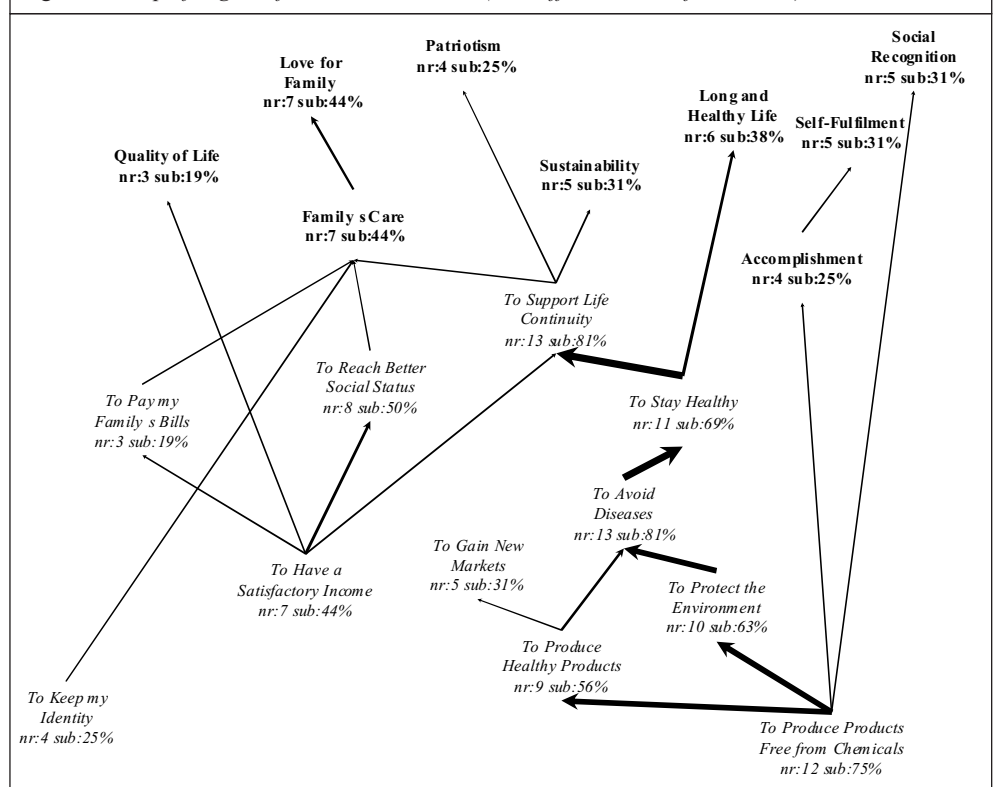
The maps, both for organic and conventional farmers, show the means-end chains indicated by at least 3 interviewees (cut-off = 3). They describe the strength of links (width of arrows) between the consequences (in italics) and the final values (in dark print) indicated at the top. The wider arrows refer to links mentioned by a greater number of interviewees.

As far as organic farmers are concerned, the map (Figure 1) shows the presence of two main motivational chains. These farmers, when choosing organic farming, appear

to be guided firstly by environmental concerns, and then by economic issues. Their desire to “produce products free from chemicals” (that is to say, “healthy products”), can be explained by the will to protect the environment, not so much and not only in order to guarantee the survival of the human race (“to support life continuity”) and of the future generations (“sustainability”), but rather by the desire to safeguard their own as well as public health. Lebanese organic farmers, like their colleagues in New Zealand (Fairweather, 1999), want to contrast the use of chemical products, which pass into the foodstuffs, in order to avoid diseases – that is to say, they care about their own health. However, unlike their own and their Danish (Tress, 2000) colleagues, Lebanese organic farmers do not mention the health of the workers. Although they are aware of the direct and indirect effects of chemical products on health (Bteich, 2004) they do not appear to be over-concerned about their own working conditions.

Income (“to have a satisfactory income”) as well as the absence of chemicals also seems to guarantee a future for the farmers (“to support life continuity”) but it is rather addressed for the care and “love for family”. In the map the concept of “safeguarding continuity” is particularly important. In technical terms it is defined as leverage point since it represents the concept with the greatest number of outgoing and incoming links. For organic farmers this final objective can be reached through a better socio-economic level and the possibility to deal with all the family expenses. Compared with other surveys the importance of the “fami-

Figure 1 - Map of organic farmers' motivations (Cut-Off=3, 43,1% of total links).



ly” goal is particularly specific to Lebanon; this value has not been only the most important of the values listed but was also indicated by almost half of the interviewees (44%).

Although the map shows a high number of selfish type values (“long and healthy life”, “social recognition”, “accomplishment”, “self-fulfilment”), the fact that altruistic values are common to both the main chains, seems to confirm, as already seen in other studies (Columba, 1995), a rather idealistic attitude in organic farmers. This aspect can also be considered as a sign of openness towards external changes (Zanoli and Naspetti, 2002) and indicates a higher level of farmers’ involvement in their own activity.

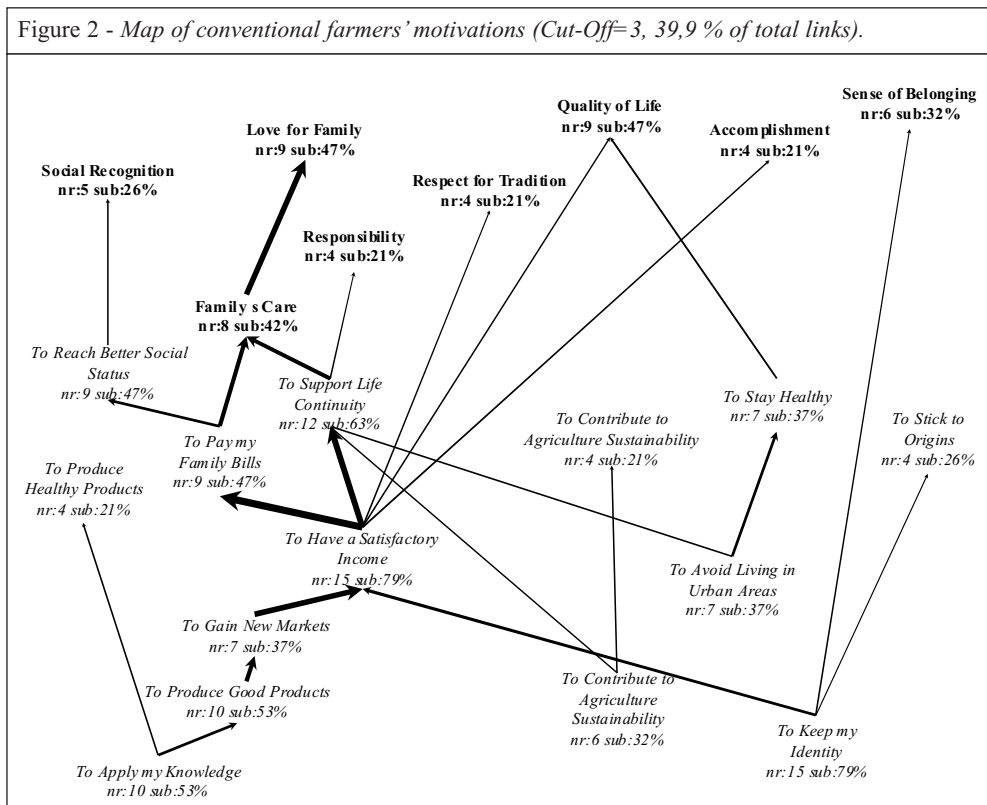
Love of the homeland (“patriotism”) also appears to be a value almost exclusive to Lebanese farmers. In this study the homeland has an important ethical value; it is seen almost as an extension, if not a part, of the family. The relevance of this aspect must be seen in the context of Lebanon and its history. Love of the homeland appears in fact to be a logical consequence of the state of instability that the country has experienced in recent years. Because of the suffering caused by the civil war, the love of the homeland became an important legacy to pass on to the future generations: the only legacy possible. One farmer said: *«we must protect the Lebanese environment because it is our identity, our future»*.

The comparison between the cognitive structures of farmers with varying levels of experience does not highlight any particular differences, even if the time interval (years) concerns farms which have been organic for a period going from less than one year to ten years (average = 2.75). The maps of the farmers recently converted to organic methods (less than one year), are not particularly different or simpler than those more expert. This finding is confirmed by some statistical elaborations. There is evidence that in organic farming the factor “experience” is not particularly important for the complexity of the cognitive structures, both for the length and the number of links and for the number of consequences indicated by the two groups of interviewees (Sørensen *et al.*, 1996; Zanoli and Naspetti, 2002). Bearing in mind the limited number of samples the only significant ( $t = 2,800$ ; T-Test of the comparison between the averages of independent samples, with equal variances) difference in the greater number of values, indicated by farmers who have been or-

ganic for more than one year, does not prove any relationship with the level of experience. Moreover Padel’s considerations (2001), concerning the influence of level of experience on motivations, appear to be only partially confirmed, probably as a result of the relative newness of organic farming in Lebanon. Even if there are no great differences in the types of values indicated (the more expert organic farmers do not have more idealistic/philosophical objectives than their colleagues), farmers recently converted show a greater presence of more addressed to environmental protection values (sustainability in general and of agriculture in particular).

It seems however that love of the nation and of the homeland is a characteristic feature of young farmers. On the contrary older farmers appear to be more pragmatic. They are aware of the new market opportunities organic agriculture could open for them, and are more greatly concerned for the family and think about the earnings and income they could obtain.

The cognitive structure of conventional farmers (Figure 2) shows that, if compared with their organic colleagues, income is of bigger importance, probably due to the presence of a greater number of full-time farmers within the analysed sample. “To have a satisfactory income”, is the most frequently mentioned by the interviewees (79%) and is the leverage point of their cognitive process. It leads to all their final values. Even for these interviewees the value “family” is of particular importance (“love for family”) – both in terms of percentage and importance of the links that deter-



mine this value. Regardless of the type of farming carried out, the “family is everything” for Lebanese farmers. The main differences between the two groups indeed concern the health factor. Conventional farmers are not worried about the indiscriminate use of chemicals, but on the contrary feel that they are producing healthy products anyway and that their health is safeguarded simply by the fact that they do not live in cities. Love of the homeland, even if expressed in more pragmatic terms – does not appear as a value – is still one of the aspects that farmers emphasise (“to stick to origins”). Their main concern is to fight competition from neighbouring countries, leading them to protect local production (Bteich, 2004).

As far as structural differences are concerned, the perception that conventional farmers have of their activity seems to be much less pragmatic, but more idealistic and static than their organic counterparts. By expressing a lower number of concepts, but the same values a greater number of times (no significant differences between the groups), this group of farmers shows a significant difference in the number of consequences ( $t = -4,045$ : T-Test of the comparison between the averages of independent samples, with equal variances).

The overall results indicate that organic farmers have a wider and more articulated view of farming and its multi-functional role, but at the same time that conventional farmers are rather inflexible, perceiving their activity as their unique and highest aim in life.

Concerning barriers (Figure 3), conventional farmers

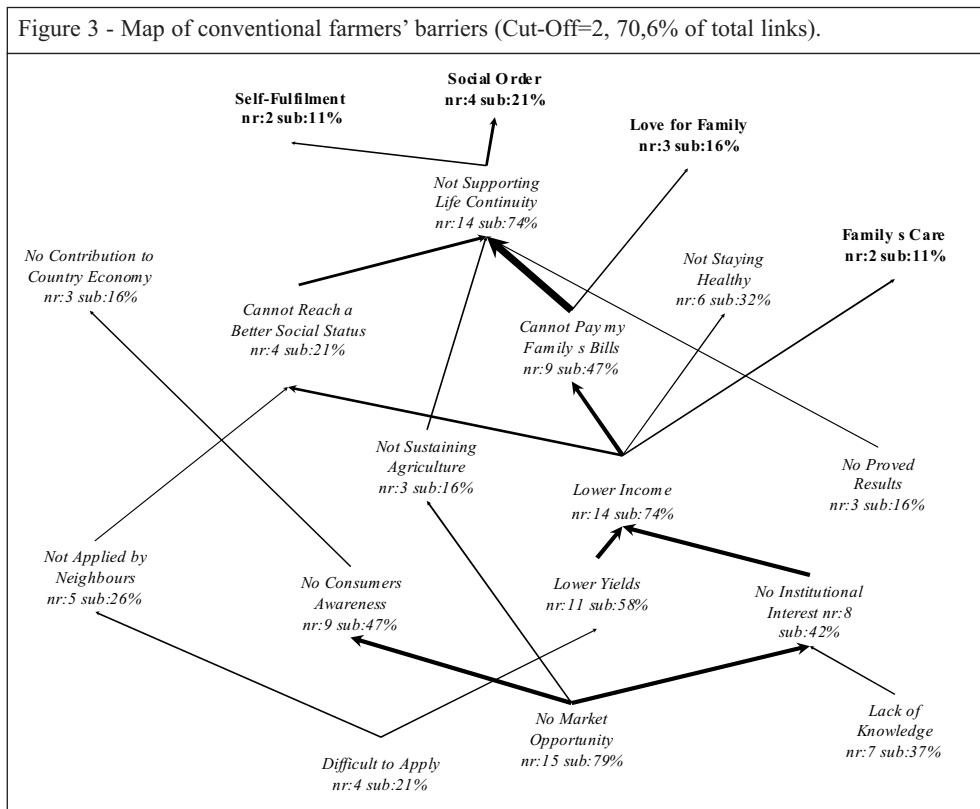
show a generalised difficulty in identifying a single reason that discourages a possible conversion to organic farming. Despite the presence of a predominant stream of thought (“no market opportunity” > “no institutional interest” > “lower income” > “cannot pay my family’s bills” > “not supporting life continuity” > “social order”), farming suffers above all from a “lack of knowledge” (37%) and a presumable difficulty in applying organic methods, which negatively influences the farmer and does not respond to his need for order and stability. This situation can be seen either as a consequence of Lebanese reality or as the general diffidence of the conventional farmer towards novelty and anything that is not part of his habitual practice (Schneeberger *et al.*, 2002). According to the conventional farmers studied, the elimination of fertilisers would result in a decrease in production (58% of the interviewees). Since they do not know the methods and the techniques that they should use, and because they are worried about the market opportunities for their products, they are afraid that their results will be less satisfactory and that their incomes will be lower. Moreover farmers complain of the lack of interest shown by the institutions and the public sector and feel the need for greater safeguards.

## 6. Final considerations

Means-end analysis has allowed the analytical identification of the way in which organic farming is perceived and considered by Lebanese farmers. Since the survey was qualitative and explorative the analysis of the cognitive structures of the interviewees, not referred to a statistical sample, must obviously be interpreted with caution to avoid inappropriate generalisations.

On the basis of the results illustrated so far, some considerations seem to arise, both from the theoretical point of view (methodological) and from that of the possible implications for the development of organic farming in Lebanon. Regarding the methodology used, this study seems to confirm the ability of the MEC approach (means-end chains model and laddering technique) to understand in depth the cognitive structures and to study farmers’ motivations.

As far as the results are concerned, this study confirms what has already been underlined in previous research indicating that motivations for adopting organic farming methods are not dependent on the characteristics of the farm itself (Schneeberger *et al.*, 2002) and the farmer (Padel, 2001).





On the contrary the different approach to organic methods is promoted by the motivations, the attitudes and the different perception of farming.

Even if it is evident that Lebanese organic farmers pay particular attention to environmental protection and to the health factor (“to avoid diseases”), it is equally true that their perception of their own activity is much more pragmatic and multi-dimensional than that of their conventional counterparts. When describing their reasons for doing organic farming, these farmers appear in fact to have a much clearer and more detailed idea of the tools they must use, and of the advantages, which permit them to reach their final objectives (values), even if their level of knowledge (“to apply my knowledge”) is considerably lower than that perceived by conventional farmers ( $t = 2,385$ ). This highlights that the level of organic farming knowledge on its own is not enough to promote the spread of organic methods.

However, it would be desirable to set up a widespread network of knowledge aiming at supporting the development of organic farming by all the parties involved (Padel, 2001), focusing not only on technical and economic aspects but above all on attitudinal and motivational ones.

In Lebanon there are no great differences in objectives and expectations between organic and conventional farmers. All Lebanese farmers have in common specific negative collective experiences, such as the civil war, the post-war economic crisis, and long-term neglect by public institutions, which have inevitably influenced attitudes and beliefs. It is therefore on the basis of these perceptions and on collective rather than individual ways of thinking that a development strategy should start to be drawn up for the national organic sector. A strategic programme is needed, to create favourable conditions and allow organic farming to express its potential for economic growth, social stability, and environmental protection in the various rural areas of the country. It is necessary to work towards a common view of the sector which should be reflected in the framework of the legislation (not yet approved), and at the same time to strengthen the coordination and the synergies between the various public and private parties which are already active in the field of organic farming. The organisation of the supply chain and the national organic system could be an important opportunity for trying out new approaches and operational measures to respond in the most adequate way possible to the requirements expressed by *all* Lebanese farmers. It is essential to avoid the (not so remote) risk that the organic sector expends its drive for innovation too quickly and gets caught up too soon in the badly functioning system which has for decades hindered the development of Lebanese agriculture.

In spite of the explorative nature of this study, results underlined that the information concerning the cognitive processes of organic and non-organic farmers can be used to promote the development of organic farming and to define adequate communication strategies. Conventional

farmers do not turn to organic methods because they are convinced that they are not well-informed and do not have sufficient know-how to allow them to start this activity. The logical consequence of this situation would be to improve technical assistance services and set up adequate communication policies, two issues that the MoA has included in its strategy 2015-2019 (Ministry of Agriculture, 2014) but that were not present at the time of the study.

In fact this study of motivations has identified, among the worries of conventional farmers concerning organic farming, some elements which have already been addressed and resolved by their organic counterparts. These concern above all the economic aspects and the political/public support which safeguard the family and social stability, and which are in line with the motivations and the advantages of farmers who have already changed to organic farming. Therefore, it would be desirable to implement a model of communication able to bridge the gap existing between the two groups using the means-end chains. The words of farmers (formal lexis) drawn from their own cognitive structures facilitate the elaboration of an efficient communication strategy, able to “speak” directly to the parties involved.

Starting from the results of the investigation proposed, a more extended and thorough exploration of the motivations, objectives and the principles underlining the behaviour of Lebanese farmers is also to be hoped for in order to understand whether, apart from collective experiences and perceptions, the analysis of the continual search for a compromise between modernity and tradition, typical of all Lebanese society (Mouawad, 2003), allows for the identification of different types of farmers with more specific and distinctive cognitive structures.

It would be challenging as well to explore if motivations, objectives and principles of Lebanese conventional and organic farmers have changed or consolidated after the Syria crisis impacts of the agricultural sector.

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