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Participatory Guarantee Systems (PGS) in Mexico:

An analysis of three local organic markets' PGS – status quo, challenges faced and potentials for improvement

Master Thesis

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List of Abbreviations

A.C.	Civil Association
AGWI	Working Group Knowledge Systems and Innovation
BOKU	University of Natural Resources and Life Sciences, Vienna
CIESTAAM	Centre for Economic, Social and Technological Research for the Agro-Industry and World Agriculture
CIIDRI	Centre of Interdisciplinary Research for Integrated Rural Development
CEDUAM	Center for Environmental Education and Ecological Action
EU	European Union
FIBL	Research Institute of Organic Agriculture
IFOAM	International Federation of Organic Agriculture Movement
ICS	Internal Control System
INEGI	National Institute of Statistics and Geography, Mexico
ISO	International Organization for Standardization
JAS	Japanese Agricultural Standard
MAELA	Latin American agro-ecological movement
MXN	Mexican Peso
NGO	Non-Governmental Organization
NOP	National Organic Program
PGS	Participatory Guarantee System
REDAC	Mexican Network of Local Organic Markets
SAGARPA	Mexican Secretariat of Agriculture, Livestock, Rural Development, Fisheries and Food
SENASICA	National Service of Sanity, Safety and Quality of Agricultural Foodstuffs, Mexico
SIAP	Agricultural and Fisheries Information Service, Mexico
US	United States of America
USA	United States of America

Glossary

English term

activities for capacity building
agro-ecological
agro-ecological traffic light
activities for capacity building
beginning (certification category)
application
applying operator

artisan
artisanal
assistant
capacity building
Charta of commitment
cleaning committee
certification committee

committee for cultural events
committee for participatory certification

committee for social events
committee of finances
committee of savings
coordinator
crafts
craft
Directive Board
farm management plan
General Assembly
health and hygiene committee
in conversion
internal (market) regulation
map of production unit
market
market coordination
market member responsible for a stand
market member
market vendor

membership application
membership entrance fee
learning

Spanish term

actividad de capacitación / capacitación
agroecológico
semáforo agro-ecológico
actividad de capacitación / capacitación
de inicio
solicitud (de ingreso)
solicitante, productor solicitando ingreso al tianguis
artesano
artesanal
vocal
actividad de capacitación / capacitación
carta de compromiso
comité de limpieza
comité de certificación participativa / comisión de certificación participativa / comisión de certificación
comité de eventos culturales
comité de certificación participativa / comisión de certificación participativa / comisión de certificación
comisión de eventos sociales
comité de finanzas
comisión de ahorro
coordinador del tianguis / del mercado
productos artesanales
artesanal
mesa directiva
plan de manejo
asamblea general
comisión de sanidad y higiene
en transición
reglamento interno del tianguis/mercado
croquis
tianguis / mercado
coordinación
titular
integrante del tianguis / integrante del mercado
Integrante del tianguis (productor, procesador, intermediario que vende productos en el tianguis)
solicitud (de ingreso)
cuota de entrada
aprendizaje

letter of denial	carta de negación de la certificación
letter outlining the certification decision	dictamen
peer review visit	visita / visita de acompañamiento
president	presidente del tianguis / del mercado
price committee	comisión de precios del mercado
probationary period	periodo de prueba
processing unit	unidad de procesamiento / unidad de transformación
production unit	unidad de producción
promotion committee	comité de difusión (y promoción)
records of production activities	bitácora
records of the farm	bitácora
regulation for the market's PGS	reglamento de certificación participativa del tianguis
renovation of the certificate	renovación del certificado
seminar	taller
secretary	secretaria
supervising committee	comisión de vigilancia
treasurer	tesorero
training	actividad de capacitación / capacitación
vendor	integrante del tianguis (productor, procesador, intermediario que vende productos en el tianguis)
visit	visita / visita de acompañamiento
visit report	reporte de visita
workshop	taller
workshop committee	comité de talleres

Abstract

Kaufmann, Sonja. 2016. Participatory Guarantee Systems (PGS) in Mexico: An analysis of three local organic markets' PGS – status quo, challenges faced and potentials for improvement. Master thesis at the University of Natural Resources and Life Sciences Vienna (Austria)

This study investigates how the concept of Participatory Guarantee Systems (PGS) is practiced in three local organic markets in Mexico. The IFOAM PGS framework was applied as a concept for analysis, problems experienced and potentials for improvement perceived by market vendors and consumers were explored as well. The aim of the study was to contribute to the state of research on PGS and to identify potentials for improving markets' PGS. Data was collected between October 2015 and March 2016 in three markets located in the State of Mexico, Tlaxcala and Oaxaca. Surveys were conducted with 60 vendors and 61 consumers of the markets. Semi-structured and informal interviews with vendors in key positions of the market organization and other key informants were conducted. Key documents of markets were analyzed and direct and participant observation was carried out. The participatory certification process in all three markets was carried out by certification committees formed almost exclusively by vendors. Results revealed gaps regarding the continuity of the certification process. Consumers did neither participate in the organization of the market nor the PGS and showed low levels of PGS awareness. The market infrastructure, promotion of the market and product variety were perceived as important factors for improving the market. The relationship among market vendors, their awareness and commitment showed to be key factors. Training and further education of market vendors, consumer awareness and consumer involvement showed to be important potentials for improvement. The market place proved to be a key factor for the sustainability of Mexican PGS initiatives.

Kurzzusammenfassung

Kaufmann, Sonja. 2016. Partizipative Garantiesysteme (PGS) in Mexiko: Eine Analyse des PGS drei lokaler Biomärkte – Status quo, aktuelle Herausforderungen und Verbesserungspotentiale. Masterarbeit an der Universität für Bodenkultur Wien.

In dieser Studie wurde untersucht, wie das Konzept der Partizipativen Garantiesysteme (PGS) in drei lokalen Biomärkten in Mexiko in die Praxis umgesetzt wird. Für die Analyse wurde das PGS Rahmenwerk von IFOAM verwendet. Zusätzlich wurden die von MarktverkäuferInnen und KonsumentInnen wahrgenommenen Probleme und Verbesserungspotentiale untersucht. Das Ziel dieser Studie war es, zum aktuellen Forschungsstand über PGS beizutragen und Verbesserungspotentiale der drei PGS zu identifizieren. Die Datenerhebung erfolgte zwischen Oktober 2015 und März 2016 in drei lokalen Märkten in den Bundesstaaten Mexiko, Tlaxcala und Oaxaca. Es wurden sowohl Befragungen mit 60 VerkäuferInnen und 61 KonsumentInnen, als auch semi-strukturierte und informelle Interviews mit VerkäuferInnen in Schlüsselpositionen der Marktorganisation sowie anderen involvierten AkteurInnen durchgeführt. Schlüsseldokumente der Märkte wurden analysiert und die Methode der Beobachtung als unterstützendes Datenerhebungsverfahren angewandt. In allen drei Märkten wurde der partizipative Zertifizierungsprozess von Zertifizierungskomitees, in denen fast ausschließlich Verkäufer partizipierten, durchgeführt. Die Ergebnisse zeigten Lücken bezüglich der Kontinuität des Zertifizierungsprozesses. KonsumentInnen partizipierten nicht in der Organisation des Marktes und des PGS und zeigten geringe Kenntnis von PGS. Die Marktinfrastuktur, Werbung und Produktvielfalt wurden als wichtige Faktoren zur Verbesserung des Marktes wahrgenommen. Die Beziehung zwischen MarktverkäuferInnen, deren Bewusstsein und Engagement kristallisierten sich als Schlüsselfaktoren heraus. Weiterbildung und Training der MarktverkäuferInnen, KonsumentInnenbewusstsein und -beteiligung zeigten sich als wichtige Verbesserungspotentiale. Ergebnisse zeigten außerdem, dass der Marktplatz ein wichtiger Faktor für die Nachhaltigkeit von mexikanischen PGS-Initiativen ist.

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1. Introduction

“Organic agriculture is a holistic production management system which promotes and enhances agro-ecosystem health, including biodiversity, biological cycles, and soil biological activity. It emphasizes the use of management practices in preference to the use of off-farm inputs, taking into account that regional conditions require locally adapted systems. This is accomplished by using, where possible, agronomic, biological and mechanical methods, as opposed to using synthetic materials, to fulfill any specific function within the system (SLIGH AND CIERPKA, 2007 P.31, CIT. CODEX ALIMENTARIUS COMMISSION, 1999/2001)”.

This holistic concept of agricultural production, a concept that fosters environmental, economic and social sustainability and aims to sustain the health of ecosystems and people, based on a combination of traditions, innovation and science (IFOAM, 2008A), has increasingly been promoted by an ever growing diverse, international movement during the last years and decades. What nowadays is referred to as the organic farming movement started as a grassroots movement that originated from different concepts regarding alternative ways of food production which arose during the end of the 19th century (SLIGH AND CIERPKA, 2007; VOGT, 2007). Organic farming then gradually developed from the endorsement of these alternative ways of food production in first private standards, the formation of an increasing number of local production and consumption networks - including the formation of first quality assurance and organic certification systems-, up to a system that is based on organic production and certification standards endorsed in legally binding national legislations (ASCHEMANN ET AL., 2007; MEIRELLES, 2003; PADEL ET AL., 2010; RAYNOLDS, 2004; SLIGH AND CIERPKA, 2007).

During the last decades and especially from the beginning of the 1990s onwards, land under organic management and the market for organic products experienced rapid growth. This development was accompanied by a fundamental change of its certification system. As the organic sector grew in scale and became a globalized industry, a shift from a certification system organized on a local level and based on the concept of peer review, to the system of third-party certification took place (KÄLLANDER, 2008; MEIRELLES, 2003; NELSON ET AL., 2010; SCHERER, 2013). Third-party certification shows a high degree of formalization and standardization, which has been argued, is necessary in order to inhibit fraud, guarantee fair competition and safeguard the integrity of organic products in a globalized market (KÄLLANDER, 2008; MEIRELLES, 2003). However, this high degree of standardization is one of the reasons third-party certification has increasingly been criticized as a certification system not capable to account for the highly diverse economic, ecological and socio-cultural environments organic farming takes place in (GETZ AND SHRECK, 2006 CIT. BOSTRÖM AND KLINTMAN, 2003 AND GUTHMAN, 1998). Especially for small-scale farmers in the global South third-party certification often creates obstacles for achieving access to organic markets (NELSON ET AL., 2008). High certification costs, bureaucratic effort, the systems' inflexibility and the need for multiple certification due to a lack of harmonization between different standards are seen as factors which often make it impossible for low-income farmers to access the market for organic products and benefit from price premiums (KÄLLANDER, 2008; NELSON ET AL., 2010). Besides, third-party certification has been criticized as inhibiting self-determination and empowerment of farmers (KÄLLANDER, 2008; MEIRELLES, 2003; PADEL ET AL., 2010 CIT. SCHULZE ET AL. 2006).

These factors led to the development of alternative organic certification systems in many places around the world. These alternative approaches towards organic certification showed to have a lot of similarities, which lead to the coining of the common concept of Participatory Guarantee Systems (PGS). Participatory Guarantee Systems have been promoted as locally organized organic guarantee systems, which are based on active participation of a broad base of stakeholders engaged throughout the organic value chain and foster learning processes and knowledge exchange and are built on a foundation of trust fostered through

the direct engagement of actors (BOUAGNIMBECK, 2014; IFOAM, 2007; MAY, 2008). They are promoted as organic guarantee systems that are less costly, more flexible and more adapted to the diverse realities of smallholder farmers and regarded as a tool for empowering smallholder farmers, for ensuring market access and for strengthening local markets (KÄLLANDER, 2008). During the last years ever more initiatives that certify farmers through PGS have been formed. However, literature likewise suggests that many PGS initiatives are facing challenges, partly stemming from elements promoted as the very essence of this type of guarantee system. These challenges may hamper the further development and proliferation of PGS and jeopardize their potential of being a viable tool for small-scale farmers to achieve market access (KÄLLANDER, 2008; MAY, 2008). Although increasing research on PGS has been conducted during the last years, it is still a young field of research and available literature suggests that there is a need for further research. This thesis aims contribute to the state of research on PGS, more specifically with regard to how IFOAM's PGS framework can be translated into practice, how the existence or absence of certain elements and features promoted as essential part of PGS within this framework may relate to the system's functioning, challenges faced on a grassroots level and potentials for improving PGS in the future.

Personal designations used in this thesis refer to both male and female persons unless the contrary is evident from the text.

2. State of the Art

2.1. Organic third-party certification and critique to it

2.1.1. Organic certification: definitions and clarifications

Certification, according to CORSIN ET AL.(2007) is a process *“through which written or equivalent assurance states that a product, process or service conforms to specified requirements* (CORSIN ET AL., 2007 P.2)”. These requirements are usually expressed as standards, which can either be mandatory or voluntary (CORSIN ET AL., 2007).

The need for certification usually results from an information asymmetry among market participants, meaning that not all of them are equally informed, which usually causes an information deficit on the customer's side of the value chain compared to the supply side (JAHN ET AL., 2005). In the case of goods and products, information asymmetry usually varies depending on the most dominant product attributes and the customers' ability to perceive and thus control whether these attributes exist or not (JAHN ET AL., 2005 ANTLE, 2001; DARBY & KARNI, 1973; NELSON, 1970).

GIANNAKAS (2002), defines certification with reference to product certification, adding this dimension of product attributes, as *“a process through which unobservable product characteristics (such as the process through which they have been produced) are guaranteed to consumers through a label* (GIANNAKAS, 2002 P.10)”.

MEUWISSEN ET AL. (2003) define certification more broadly, but with reference to the baseline used for providing this guarantee, as a *“(voluntary) assessment and approval by a (accredited) party on a (accredited) standard* (MEUWISSEN ET AL., 2003 P.172)”.

In the case of organic products, the need for certification arises, as the organic quality of a product and the production process causing this quality cannot be controlled neither at the marketplace before purchasing a product nor after purchasing and consuming the product (PADEL ET AL., 2010 CIT. LIPPERT 2005). Thus, organic product quality is usually considered as a *“credence attribute”*, a type of product attribute for which information asymmetry is considered to be very high (PADEL ET AL., 2010 CIT. NELSON, 1970; DARBY & KARNI, 1973). Hence, certification is *“aiming to address the information asymmetry by establishing through*

regular inspection that the production process follows a certain standard (PADEL ET AL., 2010)“.

Combining those three definitions, certification of organic products means that the organic production process as an unobservable product characteristic is guaranteed to consumers through a label, by means of assessing and approving this production process based on a certain standard. The party carrying out the process may be accredited or not, as well as the standard applied.

Although in some cases certification is defined by further specifying the party providing guarantee or the standard applied, for example as being accredited, and also GIANNAKAS (2002) adds to his definition that “[t]o avoid conflicts of interest, the guarantee is usually issued by a third (private or public) independent party whose ability to verify producer claims is greater than that of an individual consumer (GIANNAKAS, 2002 P.10)”, usually three types of certification are distinguished, depending on the operator or entity setting the standard and verifying compliance with this standard and the relationship between this entity and the operator certified (Table 1).

Table 1: Classification of certification systems: first-, second-, and third-party certification (based on FONSECA, 2004; FOUILLEUX AND LOCONTO, 2016; GONZÁLEZ AND NIGH, 2005)

First-party certification	Second-party certification	Third-party certification
<ul style="list-style-type: none"> • Individual operator or group defines standard to comply with and assesses compliance with this standard • Self-declaration of compliance with the standard by individual operator or group 	<ul style="list-style-type: none"> • Association of individual operators or groups defines standard to comply with and assesses compliance with standard • Provision of assurance by association to which controlled operator or group belong 	<ul style="list-style-type: none"> • Assessment of compliance is carried out by an entity which is independent from the activity it certifies (e.g. regarding production, marketing, sales, consumption) • The standard with which compliance is assessed is not defined by the same entity that controls compliance

Certification in the organic food sector in its origins was organized as a system of first-party and second-party certification and was practiced this way for a long time (FOUILLEUX AND LOCONTO, 2016; PADEL ET AL., 2010). However, during the last decades the sector's development was marked by rapid growth and the transition from a local niche market to a complex globalized industry with increased distances between places of production and places of consumption, leading to a shift from the system of first- and second-party certification to a system of third-party certification (BOZA MARTÍNEZ, 2013 CIT. ECHEVERRÍA, 2007; RAYNOLDS, 2004; SLIGH AND CIERPKA, 2007).

2.1.2. Functionality of third-party certification in the organic sector

Third-party certification is often considered to be the highest form of conformity assessment (PADEL ET AL., 2010). It can be defined as “*procedure by which a certification or control authority or body (a third party) gives written assurance that a product, process or service is in conformity with certain standards* (PADEL ET AL., 2010 P.14)“. The fact that said third party is an entity which is independent from other actors throughout the organic value chain, such as producers, traders or consumers depicts the big difference to first- or second-party certification and is the reason why third-party certification is considered as more trustworthy and reliable than the other two systems (HATANAKA ET AL., 2005 CIT. GOLAN, 2001 AND TANNER, 2000). “*Third-party certifiers are private or public organizations responsible for assessing, evaluating and certifying safety and quality claims based on a particular set of*

standards and compliance methods (HATANAKA ET AL., 2005 CIT. DEATON 2004)". This standard is set by an additional entity, namely the standard owner such as governments or the European commission (ALBERSMEIER ET AL., 2009) (Figure 1).

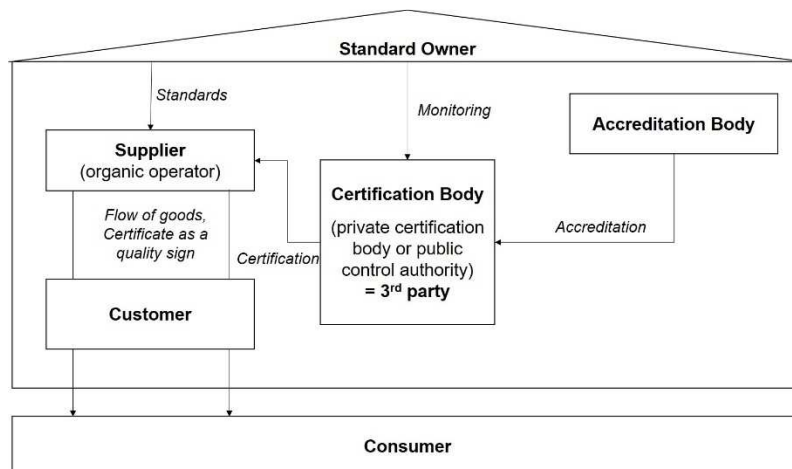


Figure 1: Basic structure of the third-party certification system (ALBERSMEIER ET AL., 2009)

An organic operator who wants to get certified applies for certification to a certifier and submits documentation on production operations and facilities. The certifier, either a private control body or a public authority then reviews this documentation and conducts a first assessment. This pre-assessment is followed by field audits (also called control or inspection (PADEL ET AL., 2010)) paid by the operator, and the verification of compliance with the controlled standard the operator wants to get certified by. In case of compliance with the standard, the certifier issues a certificate and the operator is officially allowed to label his products as certified by the assessed standard (HATANAKA ET AL., 2005).

Third-party certifiers have to carry out inspection and certification based on standards defined by the standard owner and have to prove their credibility and capability to do so by means of accreditation (ALBERSMEIER ET AL., 2009; PADEL ET AL., 2010). Accreditation as defined by HATANAKA ET AL. (2005) is *"the process by which an authoritative organization gives formal recognition that a particular third-party certifier is competent to carry out specific tasks"* (HATANAKA ET AL., 2005 P.357)".

The most common standard for accreditation endorsed in organic farming regulations is ISO 17065/EN45011 (ALBERSMEIER ET AL., 2009; PADEL ET AL., 2010). It defines general requirements for assessing and accrediting control bodies and defines requirements with regard to how certifiers have to be organized, how they have to operate and which type of quality management system they have to implement in order to be accredited (ALBERSMEIER ET AL., 2009; PADEL ET AL., 2010). These requirements include *"provisions regarding the structure of the body and requirements for policies and procedures regarding personnel qualification, documentation, and evaluation of applicants, their certification and surveillance"* (PADEL ET AL., 2010 P.41)". Within the European Union, accreditation is carried out by the national competent authority of the respective member state a certifier wants to operate in (PADEL ET AL., 2010). Some non-EU countries also use criteria developed by IFOAM Accreditation Service instead of ISO norms for accreditation of third-party certifiers (SCHMID, 2007).

For the European Union, procedures and rules for inspection and certification are defined within the European Council regulation, the inspection system however, is developed by individual member states. Inspection is carried out either by public control authorities or by private certification bodies and responsibility is handed over by the member country's national competent authority. A mixed system of private and public entities is also possible (DARNHOFER AND VOGL, 2003; EUROPEAN COMMISSION DIRECTORATE-GENERAL FOR

AGRICULTURE AND RURAL DEVELOPMENT, 2011; LAMPKIN ET AL., 1999). Field audits according to (EC) 834/2007 are carried out at least once a year. The exact frequency of control visits is determined based on a risk assessment regarding the occurrence of irregularities (PADEL ET AL., 2010).

For importing organic products, organic legislations generally require “equivalency” of organic standards (VOGL ET AL., 2005), meaning that in order to import a product labeled “organic”, it has to be guaranteed that the rules for organic production and the procedures of inspection and certification applied in the country of origin can be considered as equivalent to the standards of the target country (DARNHOFER AND VOGL, 2003; LAMPKIN ET AL., 1999).

The European Council Regulation and the US NOP provide for two different options of importing organic products. One option is the achievement of bilateral agreements between the exporting and the importing country, that is, the bilateral recognition of the production standards applied and the control system established for compliance assessment. Given such agreement, products which are certified organic in the exporting country can be sold as organic in the target country, without any additional certification (KILCHER ET AL., 2015). A precondition for such agreements is an already enacted legislation on organic farming and a fully established inspection system (DARNHOFER AND VOGL, 2003; LAMPKIN ET AL., 1999). For countries which have not achieved third country status yet, operators need to get certified by a control body accepted by the target importing country in order to import and sell their products as organic. Foreign certifiers have the option to apply and achieve recognition within the scope of the EU Regulation, the US NOP and the Japanese JAS. However, recognition is an expensive process and requirements for recognition are not easy to achieve (KILCHER ET AL., 2015).

One of the main reasons for the shift to third-party certification and its rapid proliferation within the organic sector is the fact that it is regarded to be objective and independent and therefore the most adequate way to assure a product's quality. Third-party certifiers are perceived to be independent from other actors within the agricultural value chain like producers, buyers, sellers or consumers. Besides, third-party certifiers are considered to not be interested in the outcome of the certification process. Third-party certification is therefore regarded to be more capable of regulating food safety, quality and fairness throughout the whole organic value chain than first- or second-party certification (HATANAKA ET AL., 2005). It allows for tracing the production of organic products along the entire value chain and makes it possible to audit compliance with organic standards for every step throughout the value chain - from the origin of seeds to the distribution of processed end-products (KÄLLANDER, 2008). Advantages of this system for trade on international markets resulted in third-party certification becoming the most common type of organic certification during the last decades. Third-party certification *“provides a system of legal liability protection to distributors, processors and retailers around the world (KÄLLANDER, 2008 P.6)”*. Besides, it is often argued that it can fix the problem of increased disconnection between consumers and producers and therewith related distrust by reducing information asymmetry in long supply chains (PADEL ET AL., 2010 CIT. EDEN ET AL., 2008, 2010).

However, despite these advantages and benefits external third-party certification most definitely holds, especially when it comes to global trade, critics have increasingly voiced their opinion in the last years. High economic costs involved in certification, a lack of flexibility to allow for local adaptation of standards – which is often seen as a contradiction to the roots of organic farming as being based on locally adapted production systems -, sometimes burdensome amount of paperwork required and a disagreement with the underlying paradigm of third-party certification are the main causes for critique (KÄLLANDER, 2008; RAYNOLDS, 2004).

2.1.3. Limitations of and criticism to third-party certification in the organic sector

2.1.3.1. Economic costs and paperwork involved in certification

Certification costs charged by third-party-party certifiers and the amount of paperwork third-party certification demands from operators are two main reasons for criticism to third-party certification, especially when it comes to the certification of small-scale farmers in the Global South (KÄLLANDER, 2008; MEIRELLES, 2003; RAYNOLDS, 2004; VELLEDA CALDAS ET AL., 2014A). Costs, which usually include annual fees, fees to be paid for each farm inspection, a sales fee depending on the gross annual income and extra fees, for example for unannounced audits, analysis or travels (CÁCERES, 2005) are often difficult to afford for small-scale farmers, especially in developing countries. Thus, they can constitute challenging barriers for market access. If subsidies for certification are missing, it is often impossible for these farmers to achieve market access by getting formally certified and hence profit from price-premiums for organic products, although they might be producing in compliance with required standards (CÁCERES, 2005; KÄLLANDER, 2008; MEIRELLES, 2003; RAYNOLDS, 2004). Since managed production units are often small and dispersed, costs for inspection visits often increase (KÄLLANDER, 2008; MEIRELLES, 2003; RAYNOLDS, 2004) and the fact that volumes of sales are usually relatively small when compared to the costs required for certification makes it even more difficult to access third-party certification (CÁCERES, 2005). Besides, in exporting countries without national certifiers accredited within the target country's organic regulation, certification costs often additionally increase as certification has to be carried out by a foreign certifier (RAYNOLDS, 2004).

Apart from economic costs incurring, third-party certification requires a lot of documentation, record keeping and paperwork, another aspect that often makes it difficult for many small-scale farmers to achieve certification, especially in cases of illiteracy or semi-illiteracy (CÁCERES, 2005 CIT. BARRETT ET AL. 2001; PARROT AND MARSDEN, 2002; RAYNOLDS, 2004). As argued by GONZÁLEZ AND NIGH (2005), the obstacle increases due to the strict separation of extension service and certification within the scheme of third-party certification, as farmers are often left without any support in doing required paperwork (GONZÁLEZ AND NIGH, 2005).

COSCARELLO AND RODRÍGUEZ-LABAJOS (2015) likewise mention certification costs and bureaucratic effort involved in third-party certification as obstacles for achieving organic certification for many small-scale farmers and as two frequently reported reasons for the fact that only 1.8 million of estimated 400 million farmers who use traditional and ecological production techniques are third-party certified on a global scale (COSCARELLO AND RODRÍGUEZ-LABAJOS, 2015 CIT. ILEA, S.A.).

Within the scope of third-party certification, Internal Control Systems (ICS) provide an option that can help to facilitate access to certification for small-scale farmers by reducing costs and paperwork. It gives them the possibility to organize themselves in groups and establish an Internal Control System to verify individual producers' compliance with production standards. External certification by a third party control body is still required, yet its responsibility is to verify whether the Internal Control System is functioning rather than inspecting each and every individual farmer (KÄLLANDER, 2008). Still, the effort required for establishing and maintaining this control system as well as certification costs, although reduced, can be too high for many farmers (CÁCERES, 2005; NELSON ET AL., 2010 CIT. GOMEZ TOVAR ET AL. 2005).

Additional burden is put on many farmers by the need for double- or multiple certification. A considerable variety of national and private standards exists within the organic sector and apart from some bilateral agreements on recognition of standards, mutual recognition and equivalency on a global scale is still very limited. This leads to the necessity of double- and multiple certification for different systems and different countries (SCHMID, 2007). As farmers have to comply with different legal standards in case they are exporting their products to various countries and many buyers demand particular certificates, the need for double or

multiple certification arises, additionally increasing certification fees (MEIRELLES, 2003). A similar problem appears for control bodies with regard to accreditation (VOGL ET AL., 2005 CIT. KILCHER ET AL., 2001 AND VAN ELZAKKER, 1999).

2.1.3.2. Lack of adaptability of standards and the conventionalization of organic farming

Third-party certification shows a high degree of formalization and standardization, which, as has been argued, is necessary in order to inhibit fraud, guarantee fair competition and safeguard the organic integrity of organic products on a globalized market (KÄLLANDER, 2008; MEIRELLES, 2003). However, this high degree of standardization is also the reason third-party certification is criticized for being a certification system not capable of accounting for the highly diverse economic, ecological and socio-cultural environments organic farming takes place in (GETZ AND SHRECK, 2006 CIT. BOSTRÖM AND KLINTMAN, 2003 AND GUTHMAN, 1998). As legal standards for organic certification have been mainly defined in the global North, this lack of adaptability is regarded a problem especially for small-scale farmers in southern countries, as the rules and standards that have to be met when being certified according to European or northern American organic standards are not adapted to their local conditions and are thus often difficult to meet under the respective local conditions (KÄLLANDER, 2008; RAYNOLDS, 2004 CIT. BARRETT ET AL., 2002 AND MUTERSBAUGH, 2002). In this context, it is argued that it is exactly this adaptability to the local environment and the respective cultural context, which is one of the core elements of organic farming, as organic farming practices have always been embedded in local cultures. Organic farming practices are based on traditional agricultural practices and farmers' innovations and most organic farming initiatives have been started on a grassroots level by the very farmers, without private or legal standards (IFOAM, 2013; VOGL ET AL., 2005). In contrast to early private standards developed in Europe and the US in the 1970s and 1980s, which allowed for local and site-specific adaptation, third-party certification does not (SCHMID, 2007).

With the rapid growth experienced by the organic sector during the last decades, therewith related changes in market structures and the shift from bottom-up organized certification towards a formalized and standardized top-down system, the organic movement is increasingly criticized for moving away from its roots (NELSON ET AL., 2010) and accused of more and more becoming conventionalized. This scenario entails that *“organic farming is becoming a slightly modified version of modern conventional agriculture, replicating the same history, resulting in many of the same basic social, technical and economic characteristics (DARNHOFFER, 2006 P.156 CIT. HALL AND MOGYORODY, 2001)”*.

2.1.3.3. Criticism of the paradigm underlying third-party certification

Another aspect third-party certification has been criticized for is its general approach towards conformity assessment and the way it provides guarantee. More specifically, the idea of guaranteeing organic integrity of products by means of annual visits carried out by an external inspector is seen in contrast to self-determination and empowerment of farmers (KÄLLANDER, 2008; MEIRELLES, 2003; PADEL ET AL., 2010 CIT. SCHULZE ET AL. 2006). However, the stimulation of farmers' organization and self-determination according to MEIRELLES (2003) has always been important, especially in small-scale farming. He further argues that there are other organizational forms capable of meeting the need of providing credibility regarding organic product quality and that the development of these organizational forms is not encouraged by the way inspection is carried out within the system of third-party certification, as *“[t]he fact that this credibility is 'given' by the inspection, by people and structures aliens to the community, does not create a process of empowerment of the producer family or of the community (MEIRELLES, 2003 P.2)”*. ANDRADE (2015) also argues that due to third-party certification being a conformity assessment mechanism that rather emphasizes the outcomes of the certification process and not the process itself, there is *“little room for incorporating empowering characteristics to certification (ANDRADE, 2015 P.26)”*. Furthermore,

according to KÄLLANDER (2008) the general idea of how guarantee is provided has been questioned by many who stress that building “*on the farmers’ integrity as a group*” (KÄLLANDER, 2008 P.6)” would be a better way to provide guarantee. SCHULZE ET AL. (2006) argue that the fact that operators might perceive the certification as something that is “*externally imposed rather than as an intrinsically motivated management system*” (PADEL ET AL., 2010 P.26 CIT. SCHULZE ET AL.2006)” may cause problems within the certification system. VELLEDA CALDAS ET AL. (2014A) describe third-party certification as a certification system which is vertically organized, characterized by contractual relationships and based on the certification of single products, a system which thus enhances the concentration of power in the hands of certification bodies. According to the authors it is a system not capable of contributing to the fostering of political involvement and political action of small-scale family farmers, but a system that rather causes the opposite (VELLEDA CALDAS ET AL., 2014A). Besides, it has been argued that the system of third-party certification is not contributing to bringing consumers and producers closer together as part of a wider commitment, such as commitment to environmental conservation or to the sustainability of agro-ecosystems (VELLEDA CALDAS ET AL., 2014B CIT. GONZÁLEZ DE MOLINA ET AL. 2007).

Recognizing these problems and shortcomings of third-party certification has induced groups of farmers in different countries to start developing alternative quality assurance schemes for organic products which are more adapted to their respective local conditions (KÄLLANDER, 2008; RAYNOLDS, 2004). During the last years, attention to these systems has been paid increasingly, also on the part of international organizations such as IFOAM and MAELA. As one major outcome the term “Participatory Guarantee Systems” has been coined, as a concept and sort of framework for alternative certification schemes, which have been developed in a bottom-up process by farmers and other stakeholders and is considered to be able to provide an answer to limitations of third-party certification, especially for small-scale farmers.

2.2. Participatory Guarantee Systems (PGS)

2.2.1. History and development of Participatory Guarantee Systems

The term “*Participatory Guarantee Systems*” refers to alternative approaches towards certification of organic products and is a concept developed based on a description of commonalities of these approaches (MAY, 2008). Alternative in this context, meaning alternative to external third-party certification.

Participatory Guarantee Systems (PGS) are organic quality assurance systems that are constructed and organized on a local level, by and with the direct involvement of producers in the very process of verification. In many cases other actor groups that directly have a stake in the provision of guarantee for organic products, such as consumers or traders are directly involved in the PGS as well (KÄLLANDER, 2008; MAY, 2008). As such, PGS share a lot of similarities with first organic quality assurance schemes developed in the 1970s, and some still existing alternative certification initiatives, today referred to as PGS, were even founded back then (FONSECA, 2004; GONZÁLEZ AND NIGH, 2005; KÄLLANDER, 2008).

However, what TORREMOCHA (2012) refers to as “*the second birth of Participatory Guarantee Systems*” (TORREMOCHA, 2012A P.15)” and what has led to the development of the concept, nowadays understood by the term, started during the 1990s when different actors in various parts of the world independently started to develop alternative approaches towards organic certification, many of them driven by critique to and perceived obstacles of third-party certification. The majority of these initiatives was founded in countries of the Global South, with the aim to create an alternative to third-party certified export oriented production and provide farmers who did not want to or were not able to join export production with an alternative quality assurance scheme for domestic markets (TORREMOCHA, 2012A).

In 2004, the first international workshop on “Alternative Certification” should have eventually been the key event for embracing these diverse approaches practiced throughout the world under a common concept, for coining a common terminology and for henceforth increasingly systematizing existing approaches and fostering the development of new ones. Organized by IFOAM, the Latin American and Caribbean Agro-ecological Movement (MAELA) and the Brazilian NGO “Centro Ecológico Ipê” in Brazil and with the participation of initiatives from 17 countries, different experiences were discussed and compared (FONSECA, 2004). Although organized with participation of a diversity of actors, based on very different organizational forms, including “*farmer’s associations, consumers cooperatives, clubs, marketing organizations and informal and formal non-governmental organizations* (FONSECA, 2004 P.1)”, compared experiences proved to share a lot of similarities (FONSECA, 2004; TORREMOCHA, 2012A).

One of the major outcomes of the event is considered to be the coining of the terminology “*Participatory Guarantee System*”, as a movement founded by IFOAM and MAELA, for embracing different approaches towards alternative certification under one common terminology and for further promoting this type of certification (KÄLLANDER, 2008; TORREMOCHA, 2012A). Results from the workshop have led to the development of a first concept document, defining basic elements and key features describing PGS “*in order to develop, facilitate and encourage PGS around the world* (BOUAGNIMBECK, 2014 CIT. IFOAM 2007)” (chapter 2.2.2).

In 2008 the IFOAM World Board also endorsed a first definition, adopted by the IFOAM PGS Task force (TORREMOCHA, 2012A), which henceforth has been used by the organization as well as by various authors for describing and referring to PGS:

“Participatory Guarantee Systems are locally focused quality assurance systems. They certify producers based on active participation of stakeholders and are built on a foundation of trust, social networks and knowledge exchange (IFOAM, 2008A P.1).”

However, as summarized by TORREMOCHA (2012), several attempts to define PGS have been made since then by various authors, resulting in different definitions, or rather descriptions of the process. These descriptions vary greatly, depending on the explicit focus they choose and the different dimensions of PGS they emphasize, often also in relation with the respective local context (TORREMOCHA, 2012B). The author herself defines PGS as “*a set of structures, procedures and of relationships established within them, which allow to ensure credibility, but which’s horizontal, participatory and transparent design generates spontaneous and specific internal processes which emerge as a result of a co-evolutionary process* (TORREMOCHA, 2012B P.20)”. In addition, for describing and trying to define PGS, attempts offered by BOZA MARTÍNEZ (2013), VELLEDA CALDAS AND SACCO DOS ANJOS (2014) and COSCARELLO AND RODRÍGUEZ-LABAJOS (2015) seem worthwhile to mention. BOZA MARTÍNEZ (2013) stresses that the main objective of PGS is not “*to develop control of organic products*” but rather that “*the very pedagogical process, the building of trust and the establishment of a strong group who jointly takes actions are priority goals* (BOZA MARTÍNEZ, 2013 P.8-9)”. The author further argues that “*it is not the absence of an external certification body that gives meaning and identity to PGS, but the empowerment and participation of local stakeholders* (BOZA MARTÍNEZ, 2013 P.9)”. VELLEDA CALDAS AND SACCO DOS ANJOS (2014) argue that, while third-party certification has a clear commercial character, PGS strongly embrace social and symbolic aspects and are based on values different to those of third-party certification, such as social integration, cooperation and a wider commitment to consumers and society in general. COSCARELLO AND RODRÍGUEZ-LABAJOS (2015) argue that PGS are tools to support family agriculture, which are easily adaptable to short marketing channels and which do not aim to control producers but rather to foster their inclusion into agro-ecological production.

On an international level IFOAM and MAELA since the 2004 workshop have taken a lot of effort to promote PGS and support its dissemination, including the formation of an own

IFOAM working group, namely the IFOAM PGS task force (KÄLLANDER, 2008; MAY, 2008). During the last years the support for the idea of PGS has grown throughout the world and PGS can now be found in the USA, India, New Zealand, South Africa, many Latin American and some European countries (MAY, 2008). IFOAM manages a PGS database, for systematizing existing and emerging PGS initiatives throughout the world, based on regular global PGS surveys. Besides, a bi-monthly newsletter is published and an own PGS recognition program has been set up.

2.2.2. The IFOAM PGS Framework: Key elements and features

Due to their grassroots and locally adapted character, the diversity of socio-economic and ecological contexts they are embedded in and the variety of reasons PGS originated from, *“in PGSs there is not one set of rules which must be followed by all PGSs, the key stakeholders, as far as possible, are engaged in the design and operation of the PGS with the ownership and control of the process coming from inside the overall group not from the outside [...]”* (MAY, 2008 P.13). Nevertheless, based on the identification of elements shared by many initiatives, IFOAM has defined some basic key elements and technical features to put these elements into practice, describing what many initiatives have in common. The aim of this framework by no means is to strive for harmonization or standardization (IFOAM, 2007). As stressed by the organization, the framework was rather elaborated *“in order to develop, facilitate and encourage PGS around the world”* (BOUAGNIMBECK, 2014 P.10, CIT. IFOAM 2007).

IFOAM provided a first definition of these key elements and features in one of its concept documents (2007), further elaborated by MAY (2008) in the “PGS Guidelines”, published by IFOAM based on similarities of PGS experiences (Table 2).

Table 2: Key Elements of PGS defined in the IFOAM PGS Framework (IFOAM, 2007; BOUAGNIMBECK, 2014; MAY, 2008)

(1) A shared vision:
<ul style="list-style-type: none"> • stakeholders clearly define and collectively support the core principles guiding the PGS (IFOAM, 2007) • it can be expressed by principles and values that are documented through norms, operation manuals or a charter, the vision can refer to different goals related to standards, development of agro-ecological systems, autonomy of local communities, etc. (BOUAGNIMBECK, 2014; MAY, 2008) • the conscious shared vision of farmers and consumers in the core principles guiding the program is seen as one of the fundamental strengths of PGS (IFOAM, 2007)
(2) Participation
<ul style="list-style-type: none"> • Key actors engaged in the PGS, such as producers, consumers, retailers, traders and NGOs participate in the initial design of the PGS and its operation; they participate in decision-making related to certification and to the operation of the PGS (IFOAM, 2007; MAY, 2008) • Participation is seen as one prerequisite to create credibility of the production quality (IFOAM, 2007)
(3) Transparency
<ul style="list-style-type: none"> • Awareness of all stakeholders of how the guarantee mechanism is generally working; awareness of how the process works and how decisions are made (IFOAM, 2007) • Actors shall have a basic understanding of how the system functions, including: awareness about criteria for making decisions on certification, especially reasons why farmers cannot be certified (IFOAM, 2007) • Implies existence of some written documents about the PGS and availability of these documents to all parties (IFOAM, 2007) • Confidentiality regarding private and commercially sensitive information of producers, gathered throughout the certification process shall not compromise the transparency principle (IFOAM, 2007)

(4) Trust

- PGS are based on the idea *“that farmers can be trusted and the organic certification system should be an expression of this trust* (IFOAM, 2007 P.3)”
- Full participation of all stakeholders during the development of the shared vision and the continuous adaption and reinforcement of that vision, is believed to contribute to found this trust (MAY, 2008)

(5) Horizontality

- Sharing of power and responsibilities; all actors involved in the certification process have the same level of responsibility and capacity to verify organic quality of products and processes (IFOAM, 2007)
- Verification of compliance is not concentrated in the hands of a view (IFOAM, 2007)
- Involves sharing and rotation of responsibility, direct engagement of producers in the peer review of other farmers' and collective, transparent decision-making (MAY, 2008)

(6) Permanent Learning

- PGS are aiming not only at providing guarantee on a product but also at enabling a process of permanent learning and capacity building for creating knowledge networks among the stakeholders involved in production and consumption (IFOAM, 2007)
- Permanent learning, knowledge and experience sharing is believed to contribute to sustainable community development and enhancement of livelihoods of farming communities (IFOAM, 2007)

In addition to these key elements IFOAM defines technical features which, as argued, serve to put key elements and principles underlying the PGS into practice (Table 3).

Table 3: Key Features of PGS defined in the IFOAM PGS Framework (IFOAM, 2007; BOUAGNIMBECK, 2014; MAY, 2008)

(1) Standards and Norms:

- Used as a baseline to measure and guarantee organic quality of products (MAY, 2008)
- Usually either already existing standards are adopted or new ones developed (MAY, 2008)
- are in accordance with the collective understanding of what an organic product is and should foster creativity (IFOAM, 2007)
- shall be *“conceived by all stakeholders through a democratic and participatory process* (IFOAM, 2007 P.4)”

(2) Grassroots organization

- *“The Participatory Certification should be perceived as a result of a social dynamic, based on an active organization of all stakeholders* (IFOAM, 2007 P.4).”

(3) Suitability to small-holder agriculture:

- Certification mechanisms are more appropriate to small-holder agriculture and less costly, which is achieved by the participatory and horizontal character of the PGS (IFOAM, 2007)
- Affordable for respective actors engaged in terms of paperwork and procedures and systems implemented appropriate to local realities (MAY, 2008)
- a definition of “small-holder” for the PGS-purpose does not exist (MAY, 2008)

(4) Values and Principles:

- Usually promote organic agriculture and are aimed at enhancing livelihoods of farmers and their families (IFOAM, 2007)
- Are documented; standards and norms, operation manuals and the pledge may be an expression of these values and principles (MAY, 2008)
- For example: with regard to social justice, orientation towards environmental issues, cultural appropriateness (MAY, 2008)

(5) Documented management systems and procedures:

- Degree of detail and complexity varying between PGS depending on capacities of actors involved, but some ways farmers show their commitment with organic are usually applied (IFOAM, 2007)
 - Documentation of processes and procedures inherent to the PGS (MAY, 2008)
 - Provide transparency and a baseline to measure the systems' functioning in an objective and consistent way (MAY, 2008)
 - Documents for example can include: standards, a data base of members, records or management plans of individual farms, a PGS operations manual including an outline of the certification process or sanctions for non-compliance, responsibilities of actors or a peer review checklist (MAY, 2008)
-

(6) Mechanisms to verify compliance:

- Mechanisms and procedures for verifying farmers' compliance with applied standards (IFOAM, 2007; MAY, 2008)
 - Usually aiming to enhance participation and allow a learning process of all stakeholders (MAY, 2008)
 - e.g. a description of the farm, farming activities and plans for complying with the PGS' standards (orally or written and signed by the producer), a producer pledge signed by the farmer, peer review visits, evaluation sheets, knowledge building during meetings and workshops or the share of responsibility (MAY, 2008)
-

(7) Mechanisms to support farmers

- mechanisms that support farmers to produce organically and seek certification (IFOAM, 2007)
 - for example: information and technical support by technical advisors, newsletters, farm visits or websites, facilitation of market access, promotion of the label (MAY, 2008)
-

(8) Seals and Labels:

- Seals "*providing evidence of organic status* (IFOAM, 2007 P.4)"
 - Usually renewed once a year, use of the seal is being controlled by a nominated person (MAY, 2008)
 - Labels attached to the product for providing evidence of the products' organic integrity, usually carry the PGS logo and a code of the producer (MAY, 2008)
-

(9) Clear and previously defined consequences for non-compliance with standards

- Consequences "for farmers not complying with standards, actions recorded in a data base or made public in some way (IFOAM, 2007 P.4)"
 - Should be set from the beginning and should be appropriate for the farmers' socio-economic situation (MAY, 2008)
 - producers should agree on the consequences when joining the PGS (MAY, 2008)
-

(10) Bottom-line document (e.g. Farmer's Pledge)

- PGS should have some kind of document wherein farmer's express their "*agreement with established norms* (IFOAM, 2007 P.4)"
-

As argued and illustrated by means of case studies about several PGS around the world in publications by IFOAM (2008, 2010 AND 2014), MAY (2008) as well as KÄLLANDER (2008) and TORREMOCHA (2012A, 2012B), many PGS initiatives have developed some of these elements and features in one way or another, despite their diversity and local adaptation.

A precise outline of how PGS are constructed and how they operate in practice is difficult, as they are developed on a local grassroots level and the cultural, ecological and socio-economic contexts they are embedded in as well as the type of actors engaged usually shape their exact functionality and determine how the system is structured and how it operates in the end. A prototypical outline of how PGS are often constructed and how they are operating can be given, based on guidelines elaborated by IFOAM and different PGS experiences described in literature. It has to be kept in mind though, that the system's detailed setup may show variations between different initiatives, with regard to actors engaged, steps in the process to be followed and organizational units set up. Besides, the scales the system is organized and operates at (e.g. group level, local level, regional level,

national level) can vary and the terminology used is highly dependent on the local context (TORREMOCHA, 2012A).

2.2.3. General functionality of Participatory Guarantee Systems

Participatory Guarantee Systems are organized by and aim to involve different actor groups directly engaged in producing and consuming those products, for which guarantee is provided. Besides, organizations like research institutes, universities or local governments are often involved in the development and the operation of the system. In its core, the system usually focusses on initiatives of local people and grassroots is considered as integral to PGS development and operation as far as possible (MAY, 2008).

IFOAM (2010) provides a prototypical outline of a PGS initiative formed by producers, consumers and potentially by other stakeholders, involving the local grassroots, as well as a regional and possibly a national level. According to this outline, producers are organized in a local group which is responsible for guaranteeing all producers' compliance with standards. Yearly visits to the farm of each producer involved in the group are carried out by a visitor's group which can be formed by producers, consumers and other stakeholders. Information gathered during this visit is documented in a visit report and issued to the producer collective, which is responsible for taking the final decision. Stakeholders involved in the system may form an organizational unit, such as a stakeholder council, at a regional and/or national level. In case they decide to do so, the producer group eventually reports the final decision to this higher level. This council is responsible for defining production standards and the procedures to be followed for assessing compliance with these standards. Besides, they have to approve the producer group and manage the documentation of producers certified through the PGS (BOUAGNIMBECK, 2014). The type of stakeholders involved, the different systems levels they are organized on, decision-making authority and exact procedures may differ between initiatives.

Due to their participatory and horizontal bottom-up-character, PGS are regarded as being more appropriate for small-holder farmers. The fact that PGS are locally organized allows for a higher degree of flexibility when compared to third-party certification. Certification is constructed and carried out in such a way that it involves less direct costs for producers, that the certification system is more adapted to the respective local culture and that paperwork and other processes required are more affordable and adapted to the very farmers and actors engaged in certification (IFOAM, 2007; KÄLLANDER, 2008; MAY, 2008). Besides, PGS allow for extension and advisory during the certification process, as this usually is regarded as an integral part of the certification system (TORREMOCHA, 2012A; BOUAGNIMBECK, 2014; MAY, 2008), which constitutes a fundamental difference to third-party certification. As outlined by TORREMOCHA (2012A), the core of PGS is their role as a certification system, although many PGS developed additional activities, elements, different structures and procedures and PGS can be considered as more than a quality assurance system. As argued by VELLEDA CALDAS ET AL. (2014A), PGS can fulfill the necessity to create trust and reduce the physical and social distance between producers and consumers. They can meet the role of certification as a key factor for accessing organic markets for family farmers and for bringing consumers and producers closer together (VELLEDA CALDAS ET AL., 2014A). Apart from depicting an opportunity to overcome some of the limitations third-party certification poses, especially for small-scale farmers, PGS, according to COSCARELLO AND RODRÍGUEZ-LABAJOS (2015) can also be a tool for strengthening social movements and for fostering a change in social relationships as well as local and regional food sovereignty. The importance of PGS for building food sovereignty has been stressed by ANDRADE (2015) as well. The author further argues that PGS cannot solely be considered a certification scheme but that PGS are rather a sustainable development tool. They are accompanied by developments in consumption, production and the building of markets and can be regarded as mechanisms for agro-ecological and organic transitions and for promoting technical but also administrative support (ANDRADE, 2015). In contrast to third-party certification, PGS focus more on the

process rather than its outcome and can rather be considered as a “*a tool to be used, not an end in itself*” (ANDRADE, 2015 P.44)”.

According to MAY (2008), creating a PGS is often motivated by the fact that it can be used to provide guarantee for local markets without being constrained by costs and compliance requirements of third-party certification. Besides, reduction of bureaucracy, promotion of equity and fairness throughout the production chain and the support of community development through organic agriculture are other factors often argued to motivate people to initiate a PGS (MAY, 2008).

2.2.4. Status quo of the PGS-movement on a global scale

As part of its attempt to foster the further systematization and development of PGS, IFOAM conducts regular global PGS surveys in order to collect data on the status quo of PGS worldwide, the number of existing initiatives as well as the number of producers and processors engaged, with voluntary participation of PGS initiatives (IFOAM, 2016A; TORREMOCHA, 2012A) This data is made available to the public via its online Global PGS database (IFOAM, 2016A).

Besides, the organization has developed its own PGS logo and launched a program, the “*IFOAM PGS Recognition program*”, which provides PGS initiatives with the opportunity to use this logo for all kinds of information and communication material, except for products. Apart from single PGS initiatives the organization also recognizes PGS networks, which the organization on its homepage defines as including “*several PGS initiatives that are somehow linked through common activities, procedures or the use of a common standard. They include - apart from fully operational PGS networks that are implementing functional certification systems to certify their producers - PGS that are still under development and might not yet have functional PGS procedures in place*” (IFOAM, 2016B)”. However, recognition through the *IFOAM PGS Recognition program* has to be sought by individual PGS initiatives and cannot be done by a PGS network as a whole (IFOAM, 2016B). Initiatives interested in seeking recognition have to fill out a self-evaluation form and hand in documentation based on which it is evaluated whether or not the initiative operates in conformity with the key elements and features defined. However, in order to have the possibility to start this proceeding in the first place, initiatives have to be a member of IFOAM and the standard applied by them has to be recognized within IFOAMs Family of Standards, a process that not only involves paperwork but also fees (IFOAM, 2016C). Hence, although data published on operating, emerging and recognized initiatives in IFOAM's PGS database eventually gives the most complete general overview on the status quo of PGS on a global scale, it has to be kept in mind that there may exist initiatives which do not want to be represented in these data or which for any other reason simply do not submit data and hence do not appear in “official” statistics. Besides, the fact that PGS are locally developed and organized initiatives with a very dynamic character and general lacking data availability – the PGS map published online (IFOAM, 2016A) reveals a considerable amount of countries for which no data is available – has to be kept in mind. Consequently, these data may rather be considered as a general approximation towards the number of really existing initiatives for PGS and alternative certification.

Since its last Global PGS survey in 2015, IFOAM records 133 operational PGS initiatives in 43 countries in this database, with a total number of 109 136 producers and processors engaged in these initiatives and 46 865 certified by them. Including the 100 PGS initiatives still under development, initiatives can be found in 72 countries (IFOAM, 2016A) (Table 4). By the time of writing this thesis, eleven of these initiatives have been officially recognized by IFOAM, four of them located in Brazil, two in France, and each one in Namibia, New Zealand, on the Philippines, the USA and Vietnam (IFOAM, 2016C).

Table 4: Participatory Guarantee Systems worldwide: number of PGS initiatives and producers involved in and certified by PGS initiatives per region (IFOAM, 2016A)

Region	Number of operational PGS initiatives* (2015)	Number of PGS initiatives under development** (2015)	Number of producers certified through PGS initiatives*** (2015)	Number of producers involved in PGS initiatives**** (2015)
South Asia	21	10	21 890	24 949
Latin America and Caribbean	51	22	11 810	35 026
Sub-Saharan Africa	25	34	7 965	30 137
East Asia and Pacific	22	22	1 804	14 334
Central Asia	0	1	1 600	1 600
North America	4	0	882	1 901
Europe	9	9	914	1 189
Middle East and North Africa	1	2	0	0
TOTAL	133	100	46.865	109.136

* “a PGS that is implementing a functional certification system to certify their producers (IFOAM, 2016A)”

** “in the process of development and implementing a functional certification system to certify their producers (IFOAM, 2016A)”

*** “producers that have been verified through the PGS and have received a certificate or are part of a group that has received a certificate (IFOAM, 2016A)”

**** “producers that are involved in a PGS either as certified farmers, as producers who have not received yet a certificate or who are in the process of conversion (IFOAM, 2016A)”

Most PGS initiatives can be found in Asia and Latin America. These regions also show the far highest numbers of producers certified through Participatory Guarantee Systems. However, although within the European Union, the USA and Canada the legal environment is rather unfavorable of the establishment of PGS, due to organic legislations requiring certification by an external, officially recognized and accredited third-party control body for being allowed to label products as organic (chapter 2.1.2), PGS do also exist in these regions, although to a far lesser extent. Europe’s “leading country” regarding PGS is France, with 760 producers certified and 829 involved. PGS-initiatives already operating or currently being developed can also be found in Spain, Belgium, Romania, Great Britain, Turkey and Italy. The USA currently count three operating PGS initiatives, with 816 producers being certified and 1034 involved (IFOAM, 2016A).

2.2.5. Problems and challenges faced in Participatory Guarantee Systems

Although PGS have developed rapidly in many places of the world during the last years, with ever more initiatives operating and producers certified through PGS, they also seem to be facing several challenges, which partly stem from certain elements which are the very essence of this type of certification. Although quantifiable evidence of problems experienced on a grassroots level is still poor, various publications mention some general problems and limitations several initiatives seem to face and argue that these may prevent further development and proliferation of PGS and jeopardize the potential Participatory Guarantee Systems can have as a tool for facilitating market access, empowering farmers, strengthening local markets and being a viable alternative for those actors who do not want or are not able to participate in third-party certification (KÄLLANDER, 2008; MAY, 2008).

2.2.5.1. Lack of legal recognition as organic certification scheme

One of the main limitations PGS often face is the lack of official legal recognition as an organic certification scheme. One of the main reasons for the latter is the fact that for setting the standards control bodies have to comply with in order to be accredited by national

competent authorities and hence legally allowed to perform quality assessment of organic products, most governments incorporated the norm ISO/EN 17065 published by the International Organization for Standardization (ISO). One of the key requirements for certification within the scope of this norm is the strict separation of extension service and inspection in order to guarantee the impartiality and independence of the entity carrying out inspection visits. However, as capacity building and knowledge exchange is considered a vital part of inspection and certification in Participatory Guarantee Systems, quality assurance given by a PGS does not comply with the standards of ISO/EN 17065. This major contradiction is one of the reasons PGS face a lack of recognition by most governments. Although PGS has already been endorsed by organic legislations in countries like Brazil, Bolivia, Costa Rica and Mexico as equivalent alternative to third-party certification, viable on the domestic market and under certain circumstances, PGS are legally not recognized yet in most parts of the world (MEIRELLES, 2003; NELSON ET AL., 2010).

The use of the word “organic” and equivalent terms is usually also regulated by national organic legislations and certification within the scope of the legislation is required in order to be legally allowed to make product claims with regard to the organic quality of a product. Consequently, producers certified through a PGS in countries which have a national legislation for organic production not recognizing PGS as quality assurance scheme, are not legally allowed to label their product as organic and may face problems when doing so. Hence, lacking legal recognition can be an obstacle for achieving access in the market for organic products and profiting from economic benefits related to marketing products as organic (MEIRELLES, 2003; NELSON ET AL., 2010; MAY, 2008). During the 2004 workshop on alternative certification, lacking legal recognition was also regarded as a factor causing uncertainty with regard to the future of many PGS, causing difficulties for PGS expansion (FONSECA, 2004). However, as suggested in the workshop report as well as by MAY (2008), based on the experience of the PGS “Certified Naturally Grown” in the US, using different terms that are not conflicting with the respective legislation, in this specific case “naturally grown” instead of “organic”, might be a feasible strategy to avoid this problem (FONSECA, 2004; MAY, 2008). A different suggestion is lobbying for achieving “extra-official recognition”, implying the recognition as guarantee systems for local markets within the scope of the regulation, but not as “formal certification” (FONSECA, 2004 P.4).

A limitation linked to the lack of legal recognition is the impossibility to access governmental subsidies for organic farming, in case they do exist. If certification within PGS is not considered as being equivalent to third-party certification, farmers certified organic within a PGS are not considered equal to those farmers certified by a third-party certifier. Consequently, subsidies for organic production usually can't be accessed (TORREMOCHA, 2012A).

Apart from implemented production and certification standards, another obstacle when striving for legal recognition mentioned in prior publications is the requirement of providing sufficient documentation (MEIRELLES, 2003; MAY, 2008). In order to be recognized as valid option for organic certification, sufficient transparency of the certification process has to be guaranteed. Therefore, sufficient documentation and a certain degree of regulation are needed in order to generate credibility and get legally recognized (MEIRELLES, 2003).

Following TORREMOCHA (2012A) and FONSECA (2004), the question of if and how to regulate participatory guarantee systems also appears to be controversially discussed within the movement. On the one side, it is argued that putting a greater emphasis on stronger regulating PGS is needed in order for them to be considered a real and valid alternative to third-party certification. Increased regulation and standardization is considered a prerequisite for achieving legal recognition. Others argue that a higher degree of regulation would be rather detrimental and fear that PGS undergo the same development as organic certification did in Europe during the 1990s once more emphasis is put on detailed regulations (FONSECA, 2004; TORREMOCHA, 2012B). Hence, there are some divergences between different PGS

experiences regarding their opinion on state influence and the importance of achieving legal recognition. While some see it as a necessity to get external and legal recognition, others “*want to be out of the game* (LERNOUD AND FONSECA, 2004 P.19)” and even see “*passing below the radar system of organic products governmental control (..) as a strength* (LERNOUD AND FONSECA, 2004 P.19)”. As described by MEIRELLES (2003), based on limitations experienced in the Brazilian PGS Ecovida, finding an equilibrium between the provision of sufficient documentation and regulation for the certification process to be transparent but maintaining the flexible and un-bureaucratic character of the system at the same time, can be a difficulty faced in this context (MEIRELLES, 2003).

Apart from this either ideological resistance with regard to the degree of documentation and regulation, documentation and record keeping as such appear to be a challenging task in some PGS. This is not only relevant in the context of achieving legal recognition, but also for providing transparency and certainty within the very certification system. Reasons mentioned in prior publications for problems faced with regard to documentation, are low educational levels of farmers as well as a lack of time and the missing cultural tradition for the maintenance of records in some socio-cultural settings (FONSECA, 2004; IFOAM, 2013; NELSON ET AL., 2008, 2010; KATTO-ANDRIGHETTO, 2013).

2.2.5.2. Implications of peer review: partiality of and conflicts between actors engaged

Certification being organized and carried out by the very actors the system serves in a peer review manner is one of the fundamental elements of PGS. However, this also implies that producers and consumers carrying out visits and evaluating (other) producers are neither independent nor impartial and may cause problems in some cases. As argued by NELSON ET AL. (2010), the way producers evaluate other producers, may be influenced by what they personally are expecting for their own evaluation. In case of the PGS initiative of Chapingo (Mexico), authors found this to either lead to producers' rather evaluating their colleagues not too strictly, expecting to receive the same treatment in return, or, being overly strict in their evaluation, in order to improve their standing within the collective of market members. In this context they also mention concerns for the whole market system – where PGS certified products were commercialized collectively - losing its credibility in case of problems with regard to the production system of one producer as a reason for strict evaluations in the peer review process and a general cause for conflicts between producers engaged in the PGS (NELSON ET AL., 2010). However, authors do not specify how “*evidence*” for these influences was detected exactly.

Participation of consumers may also cause problems and reservations due to their partiality, as suggested by MAY (2008), based on qualitative case studies on PGS initiatives. As argued, farmers may have reservations about consumers' involvement, assuming them to pursue low prices as their main interest, hindering maximum stakeholder participation. According to the author, early involvement of all actors during the process of developing the PGS and clearly defining the roles and responsibilities of all actor groups may help to avoid this fear of producers manifesting itself in the PGS (MAY, 2008).

Apart from problems caused by the partiality of actors participating in peer reviews, general interpersonal conflicts between actors may also be a relevant aspect endangering the functioning of PGS initiatives in the long run. In case of the PGS in Chapingo mentioned above, for example, authors mention interpersonal conflicts, between producers but also between other members of the certification committee, and differences in opinion as potential hindering factors that caused that “*the ideals of equal participation, horizontality, cooperation and consensus building were often difficult to effectively put into practice* (NELSON ET AL., 2010 P.234)”. General problems regarding the establishment of trust among market members and the mutual understanding regarding respective opinions and problems also resulted in the splitting of another PGS initiative, in Oaxaca (Mexico) (ESCALONA, 2009).

2.2.5.3. Achieving sufficient participation of relevant stakeholders and the dependency on voluntarily donated time

Another implication of PGS as a grassroots movement organized by those actors directly engaged in the value-chain of organic products and aiming at their involvement, (IFOAM, 2007, 2014B; MAY, 2008) and a certification system “*based on an assurance by a network of people and organizations* (FONSECA, 2004 P.3)”, Participatory Guarantee Systems are highly dependent on active participation of their members. These members are forming the very basis incrementally important for maintaining the system and “[t]he very life-blood of these [systems] lies in the fact that they are created by the very farmers and consumers that they serve (IFOAM, 2008B P.1)”. Besides, it has been argued that the attempt of PGS initiatives to make certification as cheap as possible for farmers and thus reduce direct costs, often results in a dependence on voluntary labor and resources provided free of charge (NELSON ET AL., 2010), making them highly reliant on voluntarily donated time of its members (FONSECA, 2004). Participation is one of the key elements of the PGS concept and can be assumed to be an important factor influencing PGS performance, as it is required for the system's effectiveness. According to NELSON ET AL. (2010), many PGS do count on the support and active collaboration of universities and NGOs, which can mitigate a lack of time of producers and consumers. However, many initiatives are also exclusively dependent on voluntary labor of its producers and consumers. As a consequence, PGS members' capacity and willingness to participate is a fundamental factor for the maintenance of the system and lack thereof may result in a problem (IFOAM, 2008B; NELSON ET AL., 2007).

However, securing sufficient participation of producers and consumers and achieving active engagement of all actor groups concerned appears to be one of the central challenges many PGS initiatives face. GÓMEZ (2013) for example reports very low levels of farmer participation in local organic markets and PGS systems in Veracruz (Mexico), with 90% neither participating in the certification committee nor in activities related therewith. NELSON (2012) reports about 50% of producers surveyed in 10 different PGS initiatives throughout the country having participated in the certification committee. However, in the case of consumers only 30% surveyed in markets with implemented PGS were even aware about the PGS's existence (NELSON, 2012). Especially the lack of consumer participation seems to be one of the weaknesses PGS have to handle, as the international workshop on alternative certification in Porto Alegre in 2004 showed as well (FONSECA, 2004). Furthermore, as argued by KÄLLANDER (2008), NELSON ET AL. (2010) and NELSON (2012), actively involving consumers in a PGS seems especially difficult. In the study conducted by NELSON (2012) lack of available time was a reason frequently mentioned by consumers and producers. Other publications by FONSECA (2004), NELSON ET AL. (2010), KÄLLANDER (2008), MAY (2008) argue similarly, although not based on quantifiable, clear empiric evidence. Other important factors influencing active involvement of consumers and producers in the certification system mentioned by several authors are the distances to the marketplace, availability of transportation and peoples' perception of their own knowledge about organic farming and the participatory certification system (FONSECA, 2004; GÓMEZ, 2013; KÄLLANDER, 2008; NELSON, 2012; NELSON ET AL., 2010; BOUAGNIMBECK, 2014; MAY, 2008). Although members might be highly committed, their actual contribution of time and resources is often hindered by other factors like work or family, creating difficulties in contributing their time to the PGS initiative. Besides, people participating in certification committees and dropping out due to restricted time can also create inconsistency and a lack of continuity of certification within the PGS (BELLANTE, 2016; NELSON ET AL., 2010). In this context, ESCALONA (2009) also suggests actors educational background playing a role, as producers from rural areas, with lower educational levels would have less time to dedicate due to the time spent on the field and necessary travelling in order to participate, while actors with higher educational levels, concluded from his findings, showed to be more strongly engaged in the organization of Mexican PGS initiatives (ESCALONA, 2009). ZANASI ET AL. (2009) also suggest educational levels as a paramount factor for successful PGS initiatives.

Limitations of time are also reported as a problem with regard to the provision of documentation required for certification or when it comes to clearly laying down the standards and the certification process applied when starting the PGS (NELSON ET AL., 2008, 2010). Authors also mention that efforts to offer training and education were not successful because people often did not have enough time to dedicate to the process, resulting in a lack of sufficient expertise to carry out inspections of many people active in certification committees, leading to difficulties when it came to satisfying the demand for certification of new producers (NELSON ET AL., 2010). The dependence on volunteers and availability of time for training and certification also resulted in a lack of capacity for including new producers. Training and support necessary for helping new producers to convert to organic farming and advisory service for farmers not yet meeting certification requirements could only be provided at a limited amount and new farmers were thus not included into the market. This further resulted into insufficient supply of organic products on the market (IFOAM, 2013; NELSON ET AL., 2008, 2010). Also IFOAM (2014) in its qualitative PGS case study on eight best practice examples located in India, Peru, France, Philippines, Brazil, Mexico and South Africa mentions participatory guarantee systems' reliance on voluntary labor and participation as one of the main threats regarding their consistency and sustainability (BOUAGNIMBECK, 2014). In this study, involvement of consumers was mentioned among the three main challenges for all eight PGS.

Apart from time issues, another fundamental factor making sufficient participation difficult, may be the transport situation, which may act as a limiting factor for participation in the certification process but also for general market access, especially in remote areas (BOUAGNIMBECK, 2014; FONSECA, 2004; GÓMEZ, 2013). Besides, consumers and producers' self-assessed knowledge on organic farming practices and participatory certification, with regard to the capacities they assume to be required in order to carry out inspection and certification may be another factor jeopardizing broad engagement of producers and consumers. Missing awareness regarding the way the certification system works and lack of knowledge about organic agriculture in three analyzed PGS showed to be an incrementally important reason for missing participation, apart from time and production constraints in the IFOAM 2014 case study (BOUAGNIMBECK, 2014). Furthermore, GÓMEZ (2013) mentions missing knowledge about what an organic product actually is and what advantages consuming organic products might have for the consumer as one limiting factor for consumer involvement as perceived by farmers and argues that lack of knowledge influences consumer attendance at the market and their willingness to pay a price premium, thus negatively influencing the markets, and in relation with it the PGS's, further development and sustainability (GÓMEZ, 2013). Another factor influencing participation, argued by ESCALONA (2009) in his study on PGS in Mexico, are actors' attitudes and beliefs towards organic production and participatory certification as well as their motivation to produce or consume organic products (ESCALONA, 2009).

Apart from the fact that active engagement and regular participation of producers and consumers is crucially important for the long-term maintenance of the certification system and the plain performance of the tasks and processes necessary in many PGS, the lack of consumer and producer participation is seen in relation with other antagonistic effects. As argued by some authors, missing consumer participation may depict a problem because active participation is believed to be linked to the trust consumers have in the system and missing consumer participation can endanger the credibility of the whole system, as active participation of consumers and producers is a precondition for creating real trustworthiness of the whole guarantee system (BOUAGNIMBECK, 2014; GÓMEZ, 2013). Lack of willingness and possibility to participate on the side of producers does depict a contradiction to the PGS ideal of seeing farmers as experts and seeking their full participation and empowerment. Besides, it can result in problems regarding the equal sharing of responsibilities within the PGS and for achieving full empowerment of farmers. This can create inequalities and

dependencies from those members who do possess necessary knowledge (NELSON, 2012; BOUAGNIMBECK, 2014).

2.2.5.4. Lack of operators' knowledge about organic farming and PGS

Another important challenge found in the study by IFOAM (2014) and other prior publications that is deeply related to the problem of active participation and engagement of all stakeholders concerned, is a lack of knowledge about organic agriculture and low understanding of the PGS concept. This is considered problematic because it can create a barrier for farmers getting access to the PGS, if their production is not in compliance with the applied production standards and resources for capacity building regarding organic farming practices for farmers who need it are not available. Besides, – as experiences from Mexico show – it can be reflected in low levels of participation in the certification process (on the producer and consumer side), as actors do not perceive themselves as capable enough to judge other farmers' production systems (GÓMEZ, 2013; NELSON, 2012; NELSON ET AL., 2008; BOUAGNIMBECK, 2014). For example, in her case study on local organic markets in Mexico NELSON (2012) found interviewees to view university staff and professionals as the people most suited for carrying out certification tasks, due to the perception of not having enough knowledge for carrying out farm visits.

Thus it is often argued that in order for PGS to grow and further develop in a sustainable way, it appears to be paramount that participating actors (producers, consumers) possess a sound knowledge on organic agriculture and the PGS assurance system. For farmers a good understanding of organic farming is believed to increase their credibility and authenticity in the marketplace, but it can also contribute to better use of common resources and increase their capacity to adapt to certain situations and conditions by finding adequate solutions (BOUAGNIMBECK, 2014).

For knowledge about organic farming and the certification system, the extent to which PGS initiatives are able to offer workshops and explicit activities for capacity building appears to be a relevant factor, which in turn often seems to be determined by the amount of financial resources available, the PGS-initiative's affiliation with institutions such as NGOs and universities as well as knowledge and information exchange with other initiatives (ESCALONA, 2009; NELSON, 2012; BOUAGNIMBECK, 2014).

2.2.5.5. Financing the PGS and ensuring economic sustainability

Another challenge a lot of PGS have to face is the need to acquire sufficient funding, become economically independent and achieve economic sustainability. Although some PGS were built up by own funding like members' payment, most PGS seem to be depend on external funds and were supported by universities, research institutes, extension agencies or NGOs, at least during the first time of development (FONSECA, 2004).

Argued by NELSON ET AL. (2010), it usually takes a long time for PGS to become self-financed. As outlined in a report published by the Inter-American Institute for Co-operation in agriculture (IICA), although direct costs for producers in PGS are usually low, the prize for putting up the system is often high. Besides, a calculation of costs for the PGS certification system is difficult, as costs incurring in the operation of a PGS usually include not only costs for conformity assessment, but also costs for technical advisory and assistance, training and/or for visits of consumers. Hence, a serious calculation of certification costs would need to separate costs for these different areas of the PGS. However, according to the authors, costs generally are perceived as lower than costs for third-party certification. Authors estimated costs for certification between 15 and 20 US dollars per year and family (IICA, 2010). Mechanisms applied for financing the PGS reported in literature are regular fees paid by producers and other members of a PGS or the organization of special activities carried out explicitly for raising money to cover costs for reunions and other expenditures (e.g. raffles) (IFOAM, 2013). In some cases, for example the Ecovida Network of Agroecology in Brazil,

PGS also obtain financial support from the federal government (IFOAM, 2008B). This governmental support is usually missing though, especially due to the lack of legal recognition, resulting in severe problems for many PGS (NELSON ET AL., 2010).

The experience of the Mexican Network of Local Organic Markets shows a good example for how lack of financial support after a starting phase well financed through external resources can result in serious problems for the system's operation, maintenance and further development (chapter 2.3.2).

The availability of financial resources or rather a lack thereof is linked to several problems a lot of PGS are facing, namely, a lack of participation in the certification process due to voluntary donation of time without economic reward and thus implied opportunity costs of actors, the lack of ability to offer activities for capacity building and thus fostering knowledge creation of actors engaged – which again may have some impact on actors degree of participation in the PGS, or even problems regarding the day to day maintenance of the system's operation (BOUAGNIMBECK, 2014). To develop a strategy for an organization to become self-sustaining right from the beginning thus seems to be of essential importance, as many experiences showed that volunteers developing the organization in the beginning tend to drop out and funds for paying key people to carry the system forward are needed (MAY, 2008).

2.3. The Mexican context

2.3.1. Organic farming and certification in Mexico: Development and status quo

The development of Mexico's organic sector was highly influenced by the demand for organic products in industrialized countries of the Global North. This demand regarded tropical products, but also other products during off-season. Thus, NGOs, trading companies as well as religious organizations from the global North increasingly started to facilitate Mexican producers' conversion to organic production, in order to satisfy the demand for certified organic products (GÓMEZ CRUZ ET AL., 2003; GÓMEZ TOVAR AND GÓMEZ CRUZ, 2004A). The most dominant organizations in this context have been the German organizations "*Bread for the World*" and "*Misereor*", the MacArthur, the Rockefeller and the Rodin foundation (USA), the Inter-American Development Bank and the North American fund for environmental cooperation, as well as Mexican NGOs like the foundation "*Vamos*" (GÓMEZ TOVAR AND GÓMEZ CRUZ, 2004A; WILLER AND YUSSEFI, 2004).

Certified organic production started primarily in the Southern parts of the country, especially in the states of Oaxaca and Chiapas. Agriculture in these regions was deeply characterized by traditional production techniques, without the use of agrochemicals. Thus, this preconditions eased conversion to organic production as required for seeking official certification and hence led to a concentration of organic production sites in these areas (GÓMEZ CRUZ ET AL., 2003; GÓMEZ TOVAR AND GÓMEZ CRUZ, 2004A). The first farm to achieve organic certification was the bio-dynamic farm "*Finca Irlanda*" in the state of Chiapas. Already founded in 1928 it sought certification for organic coffee in 1967 (GÓMEZ CRUZ ET AL., 2009; GÓMEZ TOVAR AND GÓMEZ CRUZ, 2004B; YUSSEFI ET AL., 2002).

During the 1980s and 1990s agricultural land was increasingly converted and put under organic management, mainly in the Southern states such as Oaxaca and Chiapas (YUSSEFI ET AL., 2002). Especially private coffee growers started to seek organic certification for their production units (GÓMEZ TOVAR AND GÓMEZ CRUZ, 2004B). To this day, large part of organically managed areas are located in the country's Southern states and dedicated to coffee production, mainly destined for export (YUSSEFI ET AL., 2002).

A bit later, conversion to organic production started to also take off in the country's North, again driven by foreign companies and organizations, primarily from the United States of

America (GÓMEZ CRUZ ET AL., 2003; GÓMEZ TOVAR AND GÓMEZ CRUZ, 2004A). In 1985, the producers' cooperative "*productores orgánicos del Cabo*", located in Baja California Sur, was the first cooperative producing organic vegetables (GÓMEZ TOVAR AND GÓMEZ CRUZ, 2004B).

Since then, and driven by the demand from the Global North, land under organic production in Mexico steadily increased. According to CIESTAAM, the annual average growth rate for acreage under organic management was 32% between 1996 and 2008 (WILLER ET AL., 2012). GÓMEZ TOVAR AND GÓMEZ CRUZ (2004) indicate growth rates of 26% for the number of organic producers, 45% for employment in organic agriculture and 42% for foreign currencies generated by organic production for the period between 1996 and 2000.

This development was mainly caused by constantly growing external demand from consumers in the European Union and the United States (GÓMEZ CRUZ ET AL., 2003), especially for tropical fruits, off-season vegetables and crops requiring high input of labor force (GÓMEZ TOVAR AND GÓMEZ CRUZ, 2004A, 2004C; PÉREZ CASTILLO, 2009). Besides, the possibility to obtain price premiums on international export markets acted as a driving force for Mexican producers to convert to organic production (GÓMEZ CRUZ ET AL., 2003; GÓMEZ TOVAR AND GÓMEZ CRUZ, 2004A, 2004C; PÉREZ CASTILLO, 2009) and contributed to Mexico becoming a major producer and exporting country for organic products (GÓMEZ CRUZ ET AL., 2003). The low impact of the Green revolution and the presence of traditional agricultural production systems eased compliance with importing countries' organic production standards and facilitated conversion to certified organic production. In addition, measures undertaken for training promoters and facilitating knowledge exchange between farmers fostered the diffusion of organic farming practices in accordance with official organic production standards (GÓMEZ TOVAR AND GÓMEZ CRUZ, 2004A, 2004C; PÉREZ CASTILLO, 2009).

According to figures published in "*The world of organic Agriculture 2015*", 501.364 ha were managed organically in Mexico in 2013, making up for 2,3% of the country's total agricultural area in the same year. Compared on a global scale, this meant rank 16 regarding the total acreage under organic management and rank 40 for the relative share of organic production. Besides, Mexico placed third regarding the number of organic producers worldwide, following India and Uganda, with a total number of almost 170 000 producers (KILCHER ET AL., 2015).

Around two thirds of organic production is located in the federal states of Chiapas and Oaxaca, followed by Michoacán, Querétaro and Guerrero (WILLER ET AL., 2014). Regarding different crops and production lines, around 91.6% of the total acreage under organic management are dedicated to crop production, the rest is being used for livestock production and beekeeping. The largest part of these areas are dedicated to coffee production (48%), followed by tropical and subtropical fruits (11%), vegetables (9.29%), cocoa beans (3.87%) and citrus fruits (2.38%) (GÓMEZ CRUZ ET AL., 2009; KILCHER ET AL., 2015). Besides coffee (240 000 ha), avocado (40 000 ha) and cocoa beans (20 000 ha) are the main organic products (WILLER ET AL., 2014). These crops also play an important role on an international level. In 2013, the country was the world's largest organic coffee producer, the second largest producer of organic citrus fruits (oranges, lemons, limes, grapefruits, pomelo, tangerine, others), placed 3rd for organic cocoa areas and was one of the four largest producers of organic tropical and subtropical fruits and organic vegetables (KILCHER ET AL., 2015). The most important export crop is still coffee, but also cacao, avocado, mango, agave, coconut, aloe vera, corn, citrus fruits, honey and sesame are almost exclusively produced for export (GÓMEZ CRUZ ET AL., 2009).

While the country's organic sector in its incipient stage was almost exclusively driven by foreign demand, the domestic market has experienced considerable development during the last years and Mexican consumers' interest for consuming organic products has increased, as argued by ESCALONA (2009), primarily driven by the demand for healthy food (ESCALONA, 2009). Development of the domestic sector for organic foods also has been pushed by small private companies, such as *Aires del Campo* or *Green Corner* entering the sector, and supermarkets, restaurants and hotels steadily increasing their supply of organic products.

Besides, stores specialized on organic and natural products and home delivery systems for organic food have increasingly gained acceptance and an increasing number of local organic markets (*tianguis*) have been founded throughout the country (NIGH AND GONZÁLEZ CABAÑAS, 2015). However, this development only took place in certain regions where consumer demand existed and civil society organizations as well as educational institutions explicitly emphasized fostering domestic market development (GÓMEZ, 2013 P.35). Still only 15 % of organic production are sold on the domestic market (NELSON ET AL., 2008), 5% as organic and 10% as conventional (WILLER ET AL., 2008), while 85% of Mexico's organic production is still destined to export, especially to the USA, the European Union and Japan.

This still predominant focus on export production is seen critical by some authors, who on the one hand see focus on export production as a factor inhibiting domestic market development and the possibility to achieve full socio-economic benefits related with domestic organic sector development, on the other hand see export production related to mono-cropping systems and thus in relation with the decline of soil fertility and increased vulnerability of production systems to pests and diseases (GÓMEZ CRUZ ET AL., 2007; NELSON, 2012). ORTIGOZA (2010) also raises concerns with regard to the exclusion of many small-scale producers from market access caused by underdevelopment of the domestic market (NELSON, 2012 CIT. ORTIZOGA 2010).

This appears explicitly relevant as, although medium- and large-scale producers increasingly entered the country's organic sector during the last years, also due to economic benefits achievable on export markets (GÓMEZ CRUZ ET AL., 2009), Mexican organic agriculture is still based on small-scale production and mainly carried out by organized small-scale farmers (GÓMEZ, 2013) (Table 5). Besides, 50% of organic producers are of indigenous origin (NELSON ET AL., 2010 CIT. GÓMEZ CRUZ ET AL.2006), reflecting the fact that historically seen organic agriculture in the country was especially practiced by indigenous small-scale farmers (GÓMEZ CRUZ ET AL., 2009).

Table 5: Small-, medium- and large-scale organic producers in Mexico between 2000 and 2008; share on total number of Mexican organic producers and organic area managed in % (small-scale: < 30 ha, organized in producer cooperation; medium-scale: 30-100ha; large scale: > 100 ha) (GÓMEZ CRUZ ET AL., 2010)

	2000		2004-05		2007-08	
	<i>Producers</i> [%]	<i>Area</i> [%]	<i>Producers</i> [%]	<i>Area</i> [%]	<i>Producers</i> [%]	<i>Area</i> [%]
Small-scale	98.6	84.15	99.57	80	99.95	93.65
Medium- and Large-scale	1.4	15.85	0.43	20	0.005	6.35

While Mexican medium and large-scale organic producers manage production sites with an average size of up to 150 hectares (WILLER ET AL., 2008), smallholder farmers manage production units of less than two hectares and are often organized in organizations and cooperatives (GÓMEZ CRUZ ET AL., 2009; WILLER ET AL., 2008, 2014; YUSSEFI ET AL., 2002). This is also reflected in the average area of organic agricultural land managed per producer, which according to KILCHER ET AL. (2015) was 2,95ha in 2013. According to GÓMEZ TOVAR AND GÓMEZ CRUZ (2004) in 2004 69% of foreign currencies within the country's organic sector were generated by small-scale, low input producers with managed production units of less than 30ha (GÓMEZ TOVAR AND GÓMEZ CRUZ, 2004B).

For seeking organic certification and thus accessing organic markets, Certimex is the most important certification agency operating in the country, accounting for the certification of 25 percent of all Mexican land under organic management. Besides, twenty other agencies, all located in foreign countries, are involved in the certification of Mexican organic production. Eleven of these agencies are located in the US, four in Germany, one in Italy, one in Switzerland and one in Guatemala (GÓMEZ CRUZ ET AL., 2009). However, for many small-

scale producers, third-party certification is difficult to access due to costs and paperwork involved. Hence, many of them are organized in cooperatives and are certified through Internal Control Systems (ICS) in order to confront requirements of paperwork implicit in organic certification and reduce costs (NELSON ET AL., 2010). Nevertheless, despite reduced paperwork and certification costs for individual farmers within this certification scheme, the time and resources needed to operate such a system still make it difficult for many producers to seek certification by means of an ICS (GÓMEZ TOVAR ET AL., 2005). NELSON ET AL. (2010) estimate that around 25% of land managed organically in 2010 (around 300.000 ha) were not certified, and argue, that this was caused exactly by these obstacles certification requirements pose to many small-scale producers (NELSON ET AL., 2010).

Hence, PGS as an alternative certification scheme have increasingly been adopted by small-scale farmers, primarily organized through local organic markets, as an alternative to third-party certification (NELSON ET AL., 2008).

While in its beginnings and until the Mexican organic law was published in 2006, PGS as alternative certification scheme had a rather voluntary character – as a national legislation requiring certification for selling products as organic was missing and certification was hence only needed for accessing export markets -, with the entrance into force of the national organic legislation PGS meanwhile have become an important alternative for securing market access for those producers and processors who do not want to or are not able to seek third-party certification.

2.3.2. PGS and local organic markets in Mexico: The National Network of Local Organic Markets

PGS in Mexico developed from local organic markets, and the need of producers and processors who sold their products at these markets to provide consumers with some sort of guarantee on the organic quality of their products (ESCALONA, 2009). During the last years, local organic markets have become more and more popular and the number of these markets has been steadily increasing. They are of great importance to the country's national organic sector and the domestic market for organic products. Besides, these markets, apart from being places for commercializing organic products in direct interaction with the consumer, often aim at being more than just places for selling and purchasing products (PÉREZ CASTILLO, 2009). They are important places of encounter between producers and consumers, aim to contribute to community development and are places where, apart from product supply, cultural activities and events that aim to educate actors involved are organized (NELSON ET AL., 2010). They *“seek to support local food security, through the provision of safe food at fair prices, improve local ecology by encouraging organic production, build a sense of community through direct sale and cultural activities, and educate the public about environmental and social issues related to food systems* (NELSON ET AL., 2010 P.231”).

Such markets were first founded in Guadalajara (1996), Chapingo (2003), Xalapa (2003) and Oaxaca (2003). In 2004 these pioneering markets decided to join forces and organize themselves in a network-like structure, founding the Mexican Network of Local Organic Markets (*La Red Mexicana de tianguis y mercados orgánicos, REDAC*), in the following referred to as *the Network*. Since then, *the Network* has been playing a paramount role within the country's organic movement, especially by fostering the development of new local organic markets (NELSON ET AL., 2010; NIGH AND GONZÁLEZ CABAÑAS, 2015).

NELSON ET AL. (2008) define the major objectives of *the Network* as follows (NELSON, 2012 P.123 CIT. NELSON ET AL.2008):

- Facilitate information-exchange between member markets
- Increase consumer awareness about and confidence in local organic products
- Provide capacity-building opportunities regarding organic production

- Act as a strong voice for Mexico's local organic movement at the national level
- Build solidarity within the local organic movement
- Support the creation of new local organic markets

As most producers and processor participating in these markets had been small-scale producers which were not third-party certified, markets affiliated in *the Network* started to apply PGS in order to guarantee organic quality of products sold at the market. Thus, promoting the PGS concept has become a topic of great importance within *the Network* and it has become an actor of great importance for promoting the PGS concept within the country (NELSON, 2012; NELSON ET AL., 2010). *The Network* is also officially recognized as PGS Network by IFOAM (IFOAM, 2016B), and defines PGS, using the term “*participatory certification*” as

“a collective process among producers, consumers and other actors that guarantees the organic and healthful qualities of local products generated on a small scale, based on relations of trust that promotes a commitment to health, the environment, equality and precautionary principles (IFOAM, 2013).”

On a national level, one of the biggest achievements of *the Network* in the PGS context was the official recognition of PGS by the Mexican Organic Law and their endorsement as a legal alternative to third-party certification given specific conditions (chapter 2.3.4) (NELSON ET AL., 2010). This seems of special importance, as according to NELSON ET AL. (2010), the enactment of the law and the therewith related requirement of organic certification also for selling organic products on the domestic market “*could have been potentially devastating for small scale organic producers who do not certify but still want to differentiate their product in the marketplace (NELSON ET AL., 2010 P.231)*”.

After operating without being formally constituted during its first four years, *the Network* got officially and legally recognized as a Civil Association (*Asociación Civil*) in 2008. However, individual markets did not pay membership fees or had to contribute financially to *the Network's* operational costs, as from its beginnings and until 2010 it sought economic support from the Canadian NGO *Fall Brooks Center* (NELSON, 2012 P.123). Besides, several actors from the research centers *CIESTAAM (Centre for Economic, Social and Technical Research on Global Agriculture and Agro-industry)* and later *CIIDRI (the Centre for Interdisciplinary Research for Integrated Rural Development)* from the University of Chapingo, where *the Network* was coordinated from, played an important role for maintaining *the Network's* daily work, by providing office space, time and infrastructure (NELSON, 2012). Besides, a project with the governmental secretary SENASICA was launched by 2010 to promote PGS for small-scale production for the local market (BOZA MARTÍNEZ, 2013), securing financial support for two more years (IFOAM, 2013). These six years of external financing have been essentially for founding *the Network* and further developing it (IFOAM, 2013).

According to estimations made by NELSON (2012), around 1000 producers and organizers have been associated with *the Network* by the end of 2011. GÓMEZ (2013) reports 1136 members. Regarding the number of member markets, ESCALONA (2009) reports 17 markets functioning on a continuous basis, as well as NELSON ET AL. (2010) who report an undefined number of markets under development. However, NELSON (2012) reports only 15 existing markets and 11 in the phase of development. According to GÓMEZ (2013) 50% of markets associated with the market have been functioning on a regular basis, without further specifying the total number of markets. In a case study published by IFOAM (2013), coordinators of *the Network* report 37 markets affiliated with *the Network*, 28 of them fully functioning. NIGH AND GONZÁLEZ CABANAS (2015) estimate “*around thirty (P.323)*” markets belonging to *the Network*, leaving some doubts to the question how many markets actually form *the Network*.

Besides, according to the aforementioned case study of IFOAM, *the Network* has been facing some problems in maintaining the systems operation after 2011, when external financial help, before secured through NGO projects and provided by the government ceased. While during the time when external funds were secured, costs for meetings of member markets, expenditures for market representatives' participation in meetings and infrastructural expenditures for some markets could be covered, a salary could be paid to a technical secretary for doing administrative work and trainings with regard to participatory certification and organic production could be provided, securing resources for the further operation of the system has become difficult since no external financial funds are available anymore. As according to the authors, markets for financing and organizing their daily operation are still heavily dependent on external funds and volunteers, this has become difficult for some markets. Besides, since 2011 *the Networks'* capacities regarding training and education of farmers are limited due to economic restrictions, which is why it has become difficult to foster the improvement of Network-members' production systems and support the conversion of farmers potentially willing to join markets (IFOAM, 2013).

2.3.3. PGS in Mexico practiced on the local market level

One of the first markets of *the Network* and at the same time one of the first local organic markets in Mexico to implement a PGS was Chapingo's organic market. Due to its close affiliation with and granted support from the University of Chapingo it has managed to establish a PGS that is considered to be much more developed than the PGS of most other local organic markets in the country (ESCALONA, 2009; IFOAM, 2013; NELSON ET AL., 2008, 2010). The certification process established within the market was suggested for other markets participating in *the Network* as well, with adaptations depending on the respective local context (GÓMEZ, 2013).

According to NELSON ET AL. (2010) this process is generally based on the formation of a certification committee, which, according to the authors in the case of Chapingo at the time of writing their publication was formed by approximately fourteen volunteering members, with varying numbers. In order to join the market producers had to submit their request, following a review of their documentation by the certification committee. If the application was approved, the local committee organized a farm visit. In this visit five to seven people used to participate. This visit would serve to verify compliance with the organic regulation and include knowledge and experience exchange among participating actors. During the visit the visiting group would fill out a checklist. Based on this checklist they would then make a decision regarding the status of certification of the respective operator, depending on the status of compliance with established standards. The possible options for the certification decision were "organic", "natural" and "denial of certification". The decision would then be communicated to the operator in a written document and in case certification was granted he could start selling his or her products at the market. Besides, training and activities for capacity building would be offered in the case of non-compliances and continuous follow-up visits were carried out once a year (NELSON ET AL., 2010 P.232).

However, as pointed out by several authors, although markets have been collaborating through *the Network* and the process suggested has been the same for all markets, although markets may share a similar vision and apply similar procedures as part of their PGS, depending on the local context, PGS on a local market level have developed with different degrees and in different ways. Hence, some PGS initiatives among Mexican local organic markets reached a level of relatively high development and complexity, while there are others, which still do not have a certification committee that is formally established. The implementation of PGS within Mexican local organic markets hence can still be considered work in progress, it has not been taken place uniformly throughout *the Network*, and gaps are reported even within markets (ESCALONA, 2009; GÁLVEZ ET AL., 2015; GÓMEZ, 2013; NELSON, 2012). This is also reflected in the certification processes and PGS structures described by GALVEZ ET AL. (2015) for six Mexican PGS initiatives. The process described is

similar to the one reported by NELSON ET AL. (2010) for most initiatives, but differing between markets. Organizational structures included a General Assembly of actors engaged in the initiative, a certification committee and an organizational subunit responsible for the coordination of the market. Besides, certification committees showed to be structured very differently with regard to sub-units or actor types engaged. Besides, initiatives had put up different other committees carrying out activities such as the organization of workshops or educational activities, which also showed to be developed to differing degrees between markets (GÁLVEZ ET AL., 2015). Differences in the status of development of markets' PGS according to GÁLVEZ ET AL. (2015) are also caused by the fact that, although country-wide training activities on PGS had been organized by the national competent authority and *the Network*, the follow-up of these activities on a local market level has been poor and markets in the end had to develop their own tools and methods with regard to a certification manual or formats used during the certification process (GÁLVEZ ET AL., 2015). Besides, authors argue that the significance the PGS has for the respective market differs from project to project, as *“in some markets organic certification is a guiding principle of the project and in other cases organic production is only a supplement within the market collective (GÁLVEZ ET AL., 2015 P.3)”*. Authors further argue that, for some markets, the main focus may be organic production and the supply of organically produced products, while other markets may have another focus, such as solidary economy or the development of small enterprises. Hence, products sold at the markets and the degree to which products are certified in compliance with organic standards, as well as the importance the PGS and products' status of certification have, may differ between markets. This also includes the sale of “craft” products or products that may have some other additional value than organic quality in some markets (GÁLVEZ ET AL., 2015). Hence, despite sharing a common vision and being based on same or similar regulations and guidelines, organic markets and PGS in Mexico seem to show some extent of diversity, regarding how actors conceive the very essence of the process of organic certification and how they perceive organic production in general. These differences are also influenced by the type of actors engaged in the system, their degree of experience with organic production and certification and the way these actors relate to each other (ESCALONA, 2009; GÓMEZ, 2013).

Existing literature on single markets likewise indicates that markets have been undergoing a very diverse development regarding PGS implementation, depending on the respective local conditions, actors involved and resources available. While Chapingo's organic market is described as an outstanding example with regard to PGS implementation, due to its relations with the university and the therewith related support during the development of the certification system and the possibility to compensate potential challenges and problems of PGS, such as lack of producer and consumer participation and missing resources through voluntary engagement of university staff and students (ESCALONA, 2009; NELSON ET AL., 2008, 2010; KATTO-ANDRIGHETTO, 2013), other authors mention examples of PGS ending up with third-party certification or practicing some kind of internal certification system, without actively fostering consumer participation (ESCALONA, 2009). Participation of higher education institutions or NGOs generally seems to play a fundamental role for PGS to function on a market level, not only for compensating lacking producer and consumer participation but also with regard to training and capacity building of market members, administration and organization of the certification process (ESCALONA, 2009; GÓMEZ, 2013; IFOAM, 2013; NELSON, 2012; NELSON ET AL., 2008, 2010; BOUAGNIMBECK, 2014). Apart from Chapingo's market, several other PGS initiatives showed to have benefitted from the support granted by universities, NGOs or the local government, for example through the provision of an adequate place to hold the market, technical guidance or engagement with regard to administration, organization and certification (GÓMEZ, 2013; NELSON ET AL., 2007).

Generally, quantifiable empiric scientific data on single market cases with explicit reference to their PGS and status quo of implementation is restricted to a few publications, although research on Mexican local organic markets during the last years has been conducted by

several scholars. NELSON (2012) and ESCALONA (2009), report lack of consumer awareness and missing consumer participation based on quantifiable survey data in the PGS for several cases. Besides, the question of how to deal with cases of non-compliance and the problem of constructing the system in such a way that compliance is achieved without having to expel market vendors appeared to be an issue and lack of formal education, awareness as well as clear understanding of and commitment to the production standards applied on the side of producers are suggested as potential factors hindering their compliance (NELSON, 2012). ESCALONA (2009) provides information on the status quo of the certification system for six markets, although without explicitly outlining the respective certification systems. Of these markets, three had established a certification committee or some sort of commission carrying out regular visits. One was in the phase of seeking consultancy for switching from an internal control system of the market, to individual third-party certification. In one market producers' compliance was still evaluated based on documentation and market members were being trained in PGS and at the point of starting certification visits. The sixth market also had established some kind of internal control system, working towards establishing a PGS. Besides, the author reports time constraints, lack of formal training and expertise as a hindering factor for participation (ESCALONA, 2009). According to GÓMEZ (2013), a lack of consumer awareness about what organic products actually are and the benefits related with organic consumptions was a problem within three PGS initiatives in Veracruz. Besides, a lack of training of producers with regard to organic production standards, as well as lacking continuity of the certification process was reported. Some market members had a certification category assigned, although they had never been visited. In combination with low awareness regarding how the certification committee was working and some market members lacking trust in their colleagues, the author concludes that the PGS was failing in these initiatives (GÓMEZ, 2013).

2.3.4. PGS and Mexico's legal framework for organic production

The Mexican Law for Organic Products¹ came into force on February 8th, 2006, followed by its regulation, in April 2010 and its guidelines, the "*Guidelines for the Organic Operation of the agricultural and livestock activities*"², in April 2014. For operators certified under voluntary certification schemes, a one-year transition period for adjusting production to established norms and standards and achieving organic certification was laid down (SAGARPA, 2014). Thus, since April 29th 2015, all operators selling organic products in Mexico have to comply with the norms and standards established within the national law for organic products, its regulation and guidelines.

The law establishes PGS as a recognized legal alternative to external third-party certification under certain circumstances and for sale on the domestic market, using the term "participatory organic certification (*certificación orgánica participativa*)". Article 24 of the law states that "*Participatory organic certification of family farms and / or smallholders organized for this purpose, will be promoted*", in order to guarantee organic products' compliance with the organic law (GENERAL CONGRESS OF THE UNITED MEXICAN STATES, 2006). The terms "*smallholder producer*" and "*family production*" within the scope of the law are not further specified.

During 2009 and 2010 several workshops for capacity building and meetings and forums for discussion were organized in order to include participatory organic certification into the regulation and the guidelines for organic operation. Besides, *the Network* and individual markets received support in the form of workshops, economic resources for financing working meetings and direct financing (GÓMEZ, 2013).

¹ Ley de Productos Orgánicos LPO, DOF 07-02-2006

² Lineamientos para la Operación Orgánica de las actividades agropecuarias

Article 14 of the regulation published in 2010 lays down that “*Participatory Certification is only applicable for family production or organized smallholder producers, provided that they sell directly to the consumer or end-user of the products and, that they do not produce, prepare or store the product if not in connection with the final point of sale and that products are not imported* (GENERAL CONGRESS OF THE UNITED MEXICAN STATES, 2010)”.

The guidelines further specify general preconditions for being certified by a participatory certification system, as well as organization and operation of the latter and procedures for being legally accredited by the national competent authority. According to Article 226 of the Guidelines, participatory certification systems can be recognized as a certification system for family production and/or organized small-scale producers, provided that the following criteria are met:

- Operators have to be directly involved in a production and supply initiative, for example through one of the following mechanisms: *tianquis*, market, systems of direct delivery to the consumer
- Operators have to be constituted within an organization that allows for operating the participatory certification system
- they have to adjust a minimal organizational structure (structure of human resources) and documentation, which allows for giving guarantee of its processes and trust to the consumer
- Operators need to have a physical space to offer their products

For operating the certification system, the group of operators has to set up a Participatory Organic Certification Committee (“*Comité de Certificación Orgánica Participativa*”), which has to work based on the following basic principles (Article 227): Transparency, Decentralization, Horizontality, Participation, Trust, Learning, Food Sovereignty, Adaptability, Simplification.

The committee has to be composed of at least three members. Participation of consumers, technicians and members of the civil society according to the guidelines is an option, but not a prerequisite. Within the participatory organic certification system, the certification committee is the entity responsible for guaranteeing and assuring compliance with the respective standards and norms laid down in the legislation (Article 227). Duties of the committee are further defined by Article 228 and 229 of the guidelines. The committee shall define the concrete procedures of certification, depending on and according to the regional social and agro-ecological circumstances. Furthermore, it shall develop questionnaires used for certification which should contain at least the following information (Article 228): Record on cultivation and activities carried out on the production and/or processing unit, organic management plan, social data determined by each committee, map of the production and/or processing unit.

The committee is further responsible for carrying out inspection visits to which the guidelines refer as accompaniment visits³ and for guaranteeing compliance with the principles of participatory certification. As part of the certification process, the committee is in charge of revising documentation handed in by an operator interested in achieving certification. This revision has to be carried out by at least one member of the committee, following a farm visit in case the operator meets requirements laid down in the guidelines for the respective production. In cases of non-compliance, the operator shall be informed in writing, including the specification of non-compliances (Article 229).

The visit, according to the guidelines, shall include the following steps (Article 230): Inspection of the production and/or processing unit, revision of compliance with guideline for organic production, verification of basic aspects of organic operation and hygiene in the

3 visita de acompañamiento

processing unit, verification of the use of inputs and additives (among others), verification of correct identification and labelling of products.

Furthermore, it explicitly lays down, that if required, the visit shall include *“sharing of experiences and knowledge between operators and members of the committee to improve organic operation”* and that *“visits to the production units are not conceived as inspections, but as opportunities for learning through the exchange of experiences and knowledge between all actors, who are part of a constant process of learning between operators, between operators and technicians, and operators and consumers, for assuring organic integrity of production units as well as the development of relationships of trust between them (Article 230)”*.

After the visit, the committee shall fill out a visit report, indicating aspects of compliance and non-compliance and issue this report within a period of one month (Article 230). During one of its meetings it will then conduct an evaluation based on the application and the visit report and issue a report (*dictamen*). Options of certification defined by the guidelines are: certified operator, operator with minor non-compliances and operator with major non-compliances. The latter case will lead to denial of the certification. The committee has to then provide the operator with a letter of denial, indicating respective non-compliances (Article 231). The committee can *“offer consultancy and training for achieving a production orientated towards organic production (Article 231)”*. After determining an operators' compliance with respective standards, the committee can issue a participatory organic certificate (Article 231).

In order to officially carry out certification, and to legally guarantee compliance of organic products as an officially recognized entity for participatory organic certification, certification committees have to seek accreditation before the national competent authority. Therefore, the Secretariat provides a specific application form, within which applicants have to lay down the following information (application form O-SQ-F-05):

- Basic data: location of the *tianguis* or market: Name of the *tianguis* or market, address, phone number, fax, email, homepage
- Name of the market's legal representative

Besides, the following documents have to be handed in:

- Curriculum of the *tianguis* or market
- Copy of valid notarial instrument (*“acta constitutiva”*)
- Copy of the markets' or *tianguis*' internal regulation
- Organizational chart (can be included in operation manual)
- List of/report about the technical inspection team recognized by SENASICA
- Description of the infrastructure for operating
- Description of systems for supervision and evaluation of organic operations
- Manuals of operation
- List of operations carried out during the year prior to submission and status of these operations
- Guaranteeing with signature, that body to be recognized operates based on principles of objectivity, impartiality and without conflicts of interest

3. Research Aims

3.1. Research Problem

During the last years, Participatory Guarantee Systems (PGS) proliferated rapidly throughout the world. They are perceived and promoted as promising alternatives to third-party certification for local markets of organic food. It is argued, that they are more than a system to guarantee the organic quality of products and, that they can be tools to facilitate community development, farmers' empowerment and the promotion of organic farming (BOZA MARTÍNEZ, 2013; IFOAM, 2007; TORREMOCHA, 2012A, 2012B; BOUAGNIMBECK, 2014; MAY, 2008). PGS are explicitly fostering learning and experience exchange as part of the certification process and, as argued, thus can be regarded as mechanisms for conversion to agro-ecological and organic production as well as for promoting technical and administrative support of producers (BOZA MARTÍNEZ, 2013; IFOAM, 2007; TORREMOCHA, 2012A, 2012B; BOUAGNIMBECK, 2014; MAY, 2008; ANDRADE, 2015). Apart from providing an opportunity to overcome some of the limitations which third-party certification poses especially for small-scale farmers, PGS have been promoted as a tool for fostering a change in social relationships, local and regional food sovereignty and as being a sustainable development tool, rather than only a certification scheme (ANDRADE, 2015; COSCARELLO AND RODRÍGUEZ-LABAJOS, 2015).

One of the main reasons PGS received increasing attention on an international level during the last years was the fact that the International Federation of Organic Agriculture Movement (IFOAM) has put PGS on its agenda and put a lot of effort in systematizing and promoting PGS. One outcome has been the drafting of a framework to summarize key elements and features describing what many PGS are argued to have in common (KÄLLANDER, 2008; BOUAGNIMBECK, 2014 CIT. IFOAM 2007; MAY, 2008).

The organization published some case studies on PGS experiences throughout the world, which describe how some of these elements and features are put into practice. Many of these studies are based on qualitative data provided by analyzed initiatives. On a scientific level, the topic of PGS has been discussed by some researchers during the last years. However, the topic is still a young field of research and quantifiable empiric scientific evidence on PGS initiatives and the status quo of certain elements, that are argued to be key for PGS, such as participation, trust, or actors' perception of learning as part of the certification, is still poor. Besides, the question of how key elements and features suggested as practiced by most PGS initiatives are translated into practice within one initiative, especially in relation to quantifiable data on elements such as actors' subjective perception of the system's functioning, trust of actors engaged, status quo of implementation or problems experienced by actors engaged, to the best of my knowledge, has hardly been treated. This calls for more research on the topic.

In the Mexican context, PGS developed from and are still practiced within local organic markets (ESCALONA, 2009; NELSON ET AL., 2010). A country-wide network of these markets, recognized by IFOAM as a PGS network, has made considerable effort in promoting the PGS concept throughout the country, including lobbying PGS-endorsement into law (IFOAM, 2016C; NELSON, 2012; NELSON ET AL., 2010). According to existing literature, PGS is practiced based on committees formed on a local market level and the certification process suggested for markets affiliated with *the Network* has been the same for all markets (GÓMEZ, 2013; NELSON ET AL., 2010). However, there is also evidence in literature that *the Network* as well as single markets and their PGS have been facing difficulties during the last years, even regarding the maintenance of the daily operation of the system and that *the Network's* role as a subordinate entity supporting and fostering PGS and market development has decreased, caused by lack of economic resources (ESCALONA, 2009; NELSON ET AL., 2008, 2010; KATTO-ANDRIGHETTO, 2013). Besides, it has been argued that PGS implementation has been taking

place very differently on a local market level (ESCALONA, 2009; GÓMEZ, 2013). However, quantifiable empiric scientific evidence on what this means in practice is still poor. Although local organic markets have increasingly been studied by researchers during the last years, studies with explicit focus on markets' PGS are still a few. Amongst others, they suggest that markets have been facing problems with regard to participation, consumer awareness, continuity of the certification process and trust. However, empirical quantifiable data on these aspects as well as the problem perception of participating actors is still poor. Besides, existing literature gives evidence for the dynamic character of organic markets and PGS in the Mexican context. This raises the question how PGS are currently practiced on a local market level, which challenges PGS initiatives face and which specific problems actors on a grassroots level experience.

The aim of this thesis thus is to explore the PGS of three Mexican local organic markets, in order to provide additional empiric evidence on PGS implementation in general and specifically in the Mexican context. IFOAM's PGS framework (2007) was applied for a more detailed analysis and for contributing to the state of research on how this framework can be put into practice.

3.2. Research objectives, research questions and hypotheses

The research objective of this Master thesis was to contribute with empiric evidence to the state of research on PGS by describing the PGS of three Mexican local organic markets and identifying current problems, challenges and potentials for improvement. For doing so, organizational structures put up within markets were explored in a first step in order to provide a basis for understanding how the PGS was embedded in the local organic market. The general functionality of the participatory certification process was described and its status quo of implementation, with regard to the continuity of peer review visits and vendors' evaluation of the process explored. The PGS framework defined by IFOAM (2007) was applied as a concept for analysis in order to contribute with empirical evidence on how this framework can be translated into practice. Besides, the aim was to identify potentials for improvement by applying this framework. Finally, problems perceived and potentials for improvement suggested by vendors' and consumers engaged in markets' and their PGS were explored in order to get a grassroots-perspective on what challenges markets' PGS were facing and what was needed for them to better function in the future.

Thus, the following research questions were formulated:

RQ I: How is the PGS concept put into practice in three Mexican local organic markets?

- (1) What organizational structures are markets' PGS based on?
- (2) How is the general functionality of the participatory certification process practiced?
- (3) How is IFOAM's PGS framework (chapter 2.2.2) translated into practice with regard to the following elements and features:

Vision, values and principles: What vision, values and principles have been defined for guiding the market and its PGS?

The collective support and sharing of this vision by all actors engaged, as stipulated within the framework had to be excluded from analysis due to time and effort required for a valid measurement.

Standards and Norms: Which standards for products sold at the market are applied?

Mechanisms to verify compliance: Which explicit mechanisms to verify producers' and processors' compliance with standards are used in the participatory certification process?

Clear and previously defined consequences for non-compliance with standards: Which consequences for non-compliance with standards have been defined and how are they documented?

Whether or not vendors had to agree upon these consequences when joining the market and whether or not they were appropriate to their socio-economic situation was not included into analysis.

Documented management systems and procedures: How is the general functionality of the certification process documented and which ways of documentation are used throughout the certification process?

Seals and Labels: Which mechanisms are used to give evidence on a product's status of certification at the marketplace?

Horizontalty: Which principles of sharing and rotation of responsibilities are practiced within markets' and their PGS?

Direct engagement of actors in peer review and collective decision-making as indicator for horizontalty stipulated in the framework was analyzed as part of the element "Participation".

Transparency: How are key documents of the market and its PGS and information gathered throughout the certification process made available to market vendors?

Actors' actual awareness of how guarantee mechanisms are generally working and of criteria for decisions on certification had to be excluded from analysis due to time and effort required for measuring it in a valid way.

Participation: How is the status quo of vendors' and consumers' participation in the certification committee and in peer review visits? Why do market vendors and consumers participate or not participate in the certification committee and in peer review visits? How is the status quo of vendors' participation in decision-making regarding the PGS?

Trust: How is the status quo of vendors' and consumers' trust in the organic quality of organic products certified through the PGS?

Processes of Learning: Which activities are organized in markets to foster learning and capacity building? What importance, from their subjective perception, do these activities have for vendors' learning about organic farming and PGS? What importance does learning as part of the certification process have for vendors'?

- (4) How is the status quo of PGS implementation with regard to the continuity of monitoring visits and vendors' evaluation of the participatory certification process currently practiced?

RQ II: What are the main problems and challenges experienced by vendors and consumers engaged in the PGS of three Mexican local organic markets and what potentials for improving the market and its PGS do vendors and consumers perceive?

In addition, based on literature, the following hypotheses were formulated for statistical analysis:

H1: Vendors who participate in the certification committee have higher levels of formal education than vendors who do not participate in the certification committee.

H2a: Vendors who participate in the certification committee show higher levels of self-assessed knowledge about organic farming than vendors who do not participate in the certification committee.

H2b: Vendors who participate in the certification committee show higher levels of self-assessed knowledge about PGS than vendors who do not participate in the certification committee.

H2c: Vendors who participate in peer review visits to other vendors' production or processing units show higher levels of self-assessed knowledge about organic farming than vendors who do not participate in peer review visits.

H2d: Vendors who participate in peer review visits to other vendors' production or processing units show higher levels of self-assessed knowledge about PGS than vendors who do not participate in peer review visits.

H3a: Vendors who participate in the certification committee show higher levels of self-reported trust in that organic products sold by other market vendors are organic.

H3b: Vendors who participate in peer review visits to other vendors' production or processing units show higher levels of self-reported trust in that organic products sold by other market vendors are organic.

H4a: Vendors who have received training show higher levels of self-assessed knowledge about organic farming than vendors who have not received training.

H4b: Vendors who have received training show higher levels of self-assessed knowledge about PGS than vendors who have not received training.

4. Methods

I conducted data collection between October 2015 and March 2016 in three Mexican local organic markets with PGS, using surveys, semi-structured and informal interviews and participant and non-participant observation as data collection methods. In addition, I collected internal documents of markets and their PGS and reviewed documentation on the Mexican Network of local organic markets, accessible at the University of Chapingo, where my main research partners were located.

4.1. Study Area

The three markets were located in three of the country's 32 federal states (Figure 2).

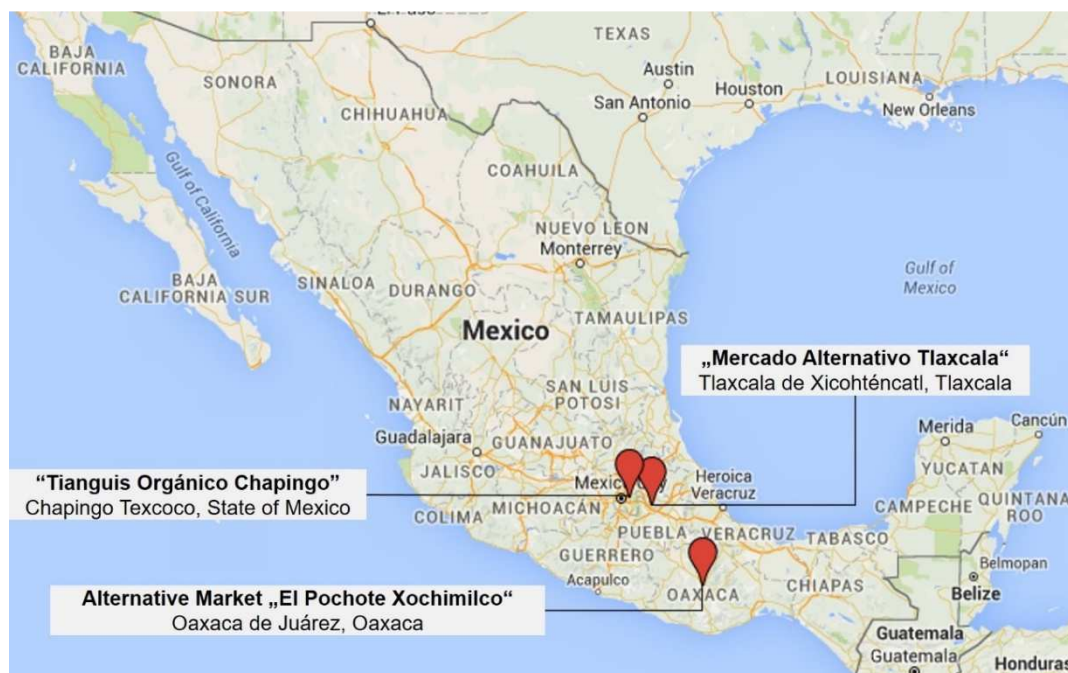


Figure 2: Location of case study markets for data collection (source of map: Google Maps)

I chose these markets for practical reasons such as availability of contacts, characteristics of the study areas were not considered. The first market to start data collection in, Chapingo's organic market and the second market, Tlaxcala's alternative market, were located in the center of the country, while the third one, the alternative market "*El Pochote Xóchimilco*" was located in Southwestern Mexico, in the state of Oaxaca (Table 6).

Table 6: Basic data on the study areas State of Mexico, Tlaxcala and Oaxaca (INEGI, 2016A, 2016B, 2016C, 2016D)

	STATE OF MEXICO	TLAXCALA	OAXACA
Capital	Toluca de Lerdo	Tlaxcala de Xicohténcatl	Oaxaca de Juárez
Size	21 461 km ²	3 914 km ²	95 364 km ²
Population (2015)	16 187 608	1 272 847	3 967 889
% of total Mexican population	13.5%	1.1%	3.3%
Population density (2015)	724 pop. per km ²	318 pop. per km ²	42 pop. per km ²
Share of population living in urban areas (2010)	87%	80%	77%
Share of indigenous population (2010)	2.8%	2.6%	34.2%
Climate zones	<ul style="list-style-type: none"> • Temperate with dry winters • Semi-arid 	<ul style="list-style-type: none"> • Temperate with dry winters • Semi-arid 	<ul style="list-style-type: none"> • Temperate with dry winters • Semi-arid • Humid-subtropical • Tropical wet- and dry
Average annual temperature	14,7°C	14°C	22°C
Average annual precipitation	900 mm	720 mm	1550 mm

Comparing the three case study areas with regard to agricultural production, the biggest area dedicated to agricultural production can be found in Oaxaca. The state of Oaxaca also places second with regard to organic production among all Mexican states, with 17% of the country's total area under organic production and almost 30% of all Mexican organic producers (Table 7).

Table 7: Basic agricultural data on the study areas State of Mexico, Tlaxcala and Oaxaca (GÓMEZ CRUZ ET AL., 2010; INEGI, 2016A, 2016B, 2016C, 2016D; SIAP, 2016; ZAMILPA PAREDES ET AL., 2015)

	STATE OF MEXICO	TLAXCALA	OAXACA
Total area sown [ha] (2011)	872 271	248 777	1 421 468
Main temporary crops (production area) (2015)	<ul style="list-style-type: none"> • corn (grain) • oat (fodder) • barley (grain) • corn (fodder) • triticale (grain) 	<ul style="list-style-type: none"> • corn (grain) • barley (grain) • wheat (grain) • oat (fodder) • corn (fodder) 	<ul style="list-style-type: none"> • corn (grain) • beans • sorghum (grain) • wheat (grain) • sesame
Main permanent crops (production area) (2015)	<ul style="list-style-type: none"> • grasslands • prickly pear (tuna) • avocado • green alfalfa • rye grass • peach 	<ul style="list-style-type: none"> • green alfalfa • peach • agave (<i>pulque</i>) • grasslands • prickly pear (tuna) 	<ul style="list-style-type: none"> • grasslands • coffee • sugar cane • lime • mango
Total value of agricultural production [thousand MXN]⁴ (2011)	12 752 975	1 423 417	13 387 850
Area under organic production (2008)	577.42 ha	20 ha	64 495.01 ha
% of total area under organic production in Mexico (2008)	0.15%	0.01%	17.3 %
Annual growth rate (2008)	78.91%	-27%	10.97%
Number of organic producers	52	102 (2004/05)	36 219
% of all organic producers in Mexico (2004/2005)	0.04%	0.01%	28.97%
area/producer for organic production [ha]	11.4	1.78 (2004/05)	1.78
Important organic crops	<ul style="list-style-type: none"> • prickly pear • agave • corn • avocado 	-	<ul style="list-style-type: none"> • coffee • white sesame • mango • jamaica • agave (<i>maguay</i>) • nopal • corn

4.2. Case study markets

I decided to choose various markets to conduct data collection for this thesis for several reasons, following suggestions for case-study design made by YIN (1994). Firstly, it was not possible to identify one unusual, outstanding case among Mexican markets with PGS based on available literature. Secondly, PGS is still a young field of research and findings from prior studies revealed differences between markets regarding PGS implementation (ESCALONA, 2009; GÓMEZ, 2013; NELSON, 2012). Besides, with regard to external validity of the study it seemed more appropriate to conduct data collection in more than just one market (YIN, 1994). The number of markets chosen was a consequence of the time frame available to conduct data collection and the demand to create some extent of depth in analyzing single cases. Regarding the two strategies of case selection for multiple-case studies suggested by YIN (1994), literal replication (*“choosing cases so that they predict similar results”* (YIN, 1994 P.46)) or theoretical replication (*“choosing cases which produce contrasting results but for*

⁴ MXN = Mexican Peso; at the time of data collection (September 2015 – March 2016) the exchange rate varied between 17.5 and 21.6 EUR (Euros). Exchange rate October, 13th 2016: EUR 1 = MXN 20.95; the average between October 2015 and October 2016 was 19.99 EUR (EUROPEAN CENTRAL BANK, 2016).

predictable reasons (YIN, 1994 P.46)”), data available before starting data collection did not allow for explicitly choosing one of these strategies. Furthermore, the plan to select markets based on a comprehensive overview of existing markets with implemented PGS and the national market Network’s status quo, obtained when already in the field, did prove unfeasible, as obtained information was rather sparse and sometimes inconsistent. Hence, it was not possible to obtain clear, solid evidence about the number of PGS initiatives operating at the time of data collection within the time of my field stay, even less, for using it as a basis for case selection. In the end I selected markets due to available contacts providing an entry point and the practical feasibility of data collection in the respective markets with regard to geographic distances and opening hours. As my main research partners from the University of Chapingo were affiliated with Chapingo’s organic market, I started data collection there. Via a producer family who participated in Chapingo’s market as well as in the market of Tlaxcala I then established contact with the alternative market of Tlaxcala. Finally, during a field trip to Oaxaca with a research fellow from the University of Chapingo, I made contact with key actors from the market in Oaxaca, directly at the marketplace.

4.2.1. Case I: Chapingo’s organic market (“*Tianguis Orgánico Chapingo*”)

Chapingo’s organic market was initiated in 2003 as a project lead by actors affiliated with the University of Chapingo. Already before its inauguration in November 2003, the first Mexican network of organic consumers had been operating, starting in 2002, with the participation of academics, employees and students of the University of Chapingo, but also women from the city of Texcoco, not affiliated with the university. Due to increasing interest on the consumer side and for being able to include more consumers interested in purchasing organic products, actors engaged in the network decided to found a market. The university thus assigned an adequate building to the group of founding members. One of the project’s main objectives was to better link the university with its regional environment, such as producers, consumers and civil society, in order to foster the fulfillment of the university’s functions regarding the diffusion of culture, research and teaching. Until 2010, the market was coordinated in all its activities⁵, including certification, by the founding group, in close collaboration with university students (source: market’s PGS regulation IR2, chapter 4.4.4). During this time, the market had financial support secured through projects between the research centers CIESTAAM⁶ and later CIIDRI⁷ (where those professors who supported the foundation of the market were working) and a Canadian NGO. This financial support did not only serve the market but especially the national Network of local organic markets (REDAC, hereafter again referred to as *the Network*). *The Network*, founded in 2004 was also coordinated from Chapingo and CIESTAAM / CIIDRI and the market was one of its first four members.

As the financing stopped, the university started to withdraw and the project was more and more taken over by market vendors (key informant KI14/I1, Annex 12.2), why from 2010 onwards different members of the market had been in charge of coordinating the market and its PGS⁸. By the time of data collection conflicts between market vendors had resulted in the division of the market collective into two groups, influencing the market’s PGS and causing uncertainty regarding the status of certification of products sold at the market, as certification and other activities were not carried out on a market level anymore, but separately by each group. In order to consolidate the market’s certification system and foster stability within the

5 E.g.: one person in charge of carrying out controls on market days, paid by the university (KI14/14; KI14/I1; KI6/1); decoration, table where information material was provided, organizing General Assembly meetings, organizing certification process (KI14/4).

6 Centre for Economic, Social and Technological Research of Agro-Industry and World Agriculture / Centro de Investigaciones Económicas, Sociales y Tecnológicas de la Agroindustria y la Agricultura Mundial

7 Centre of Interdisciplinary Research for Integrated Rural Development /Centro de Investigaciones Interdisciplinarias para el Desarrollo Rural Integral

8 In the certification process, some members of the founding group still continued to participate for some time (KI14/I4, KI 1/I1).

market as well as continuity of the certification process, actors from the University of Chapingo resumed close cooperation with the market in February 2016. The university's rector nominated two research-professors from CIIDRI, who had been part of the founding group, as officially responsible for the market and its PGS. A new regulation for the PGS (the first one explicitly focusing on certification) was passed, following changes regarding the certification process, the general organizational structures of the market as well as re-election of all positions.

Therefore, two different results were obtained for some aspects of formulated research questions. The first one for the period between October 2015 and February 2016 (which was the period during which I carried out survey data collection) with the market structures and the PGS as defined in the markets' "old" internal regulation and described by key informants (in the remainder of this thesis referred to using Roman numeral I). The second one for the period starting in February 2016, with market structures and the certification process defined by the new regulation and discussed in several meetings between market members and university members at the end of data collection (in the remainder of this thesis referred to using roman numeral II). For survey results, no distinction between the two periods will be made.

Marketplace, market infrastructure and market stands

At the time of data collection, the market was held every Saturday from 10 am to 3 pm in a closed building, a former grocery store, owned by the university. Market members could use the building free of charge (K114/I2, K11/I1). However, 300 pesos a month were paid to the council for water and security service (K11/I1). The building was composed of several areas: the main market area, where vendors were exhibiting their products on regular tables, an area for workshops and lectures in the back of the building on a podium-like area, toilets and an open-air area with tables and chairs in front of the building, where prepared meals and beverages were served by two stands (Figure 3). The building contained another area which was not used at the time of data collection. In total, the market had 28 stands. Twenty-five vendors, so called *titulares*⁹ were responsible for these stands. However, on average 54 vendors attended stands (source: counted during participant observation E1-E7, Annex 12.3). Seventeen of these stands were selling exclusively food products, two stands were selling exclusively prepared meals and beverages, three stands were selling exclusively non-food products and eight stands were selling food and non-food products (E1-E7). Market vendors were producers, processors and intermediaries alike. Products sold at the market included fresh vegetables and fruits, seeds, meat, bread, tortillas, dairy products, coffee, honey, dried herbs, but also processed products such as yam and conserves. Besides, some vendors were intermediaries and sold third-party certified products as well.

⁹ *"titular"* of a table or stand at the market: person responsible for a respective stand, usually the person whose name appears in the membership application and who is regarded responsible for the stand (although markets may have more members, as more actors than *"titulares"* participate, attend stands and form part of the market collective)



Figure 3: Chapingo's organic market, left: market entrance, right: inside the market building (source: Kaufmann, Texcoco El Cooperativo 2016)

Furnishings used at the market had been provided free of charge by the university and complemented over the years (KI1/I1, KI14/4).

Financing of the market and the PGS

At the time of data collection market members (vendors) did not have access to external funds for financing the market and its PGS. All expenses were covered by cooperation fees paid by market members (KI1/I1). Members did not have a common fund anymore, hence the amount paid differed and was either 30 or 60 MXN^{4,10} per market day. Fees were mainly used to pay water and security and cover expenses for events and activities organized within the market, such as the market's anniversary. Besides, extraordinary expenses like maintenance costs were covered (KI1/I1). Besides, it served for paying costs involved in certification of products, mainly costs regarding gas, food and accommodation incurring for peer review visits (KI13/I2, KI 1/I1, KI 9/I1). In the case of new applicants, the operator visited had to cover costs for carrying out the visit (source: internal market regulation IR1, chapter 4.4.4). According to a key informant, expenses during peer review visits were additionally disbursed by market members participating in visits (KI 1/I1). Under the new certification scheme costs similarly would be covered by applicants for first visits and by the market for renewal of the certification (E 19, KI 14/I).

At the time of data collection, the market had no legal form.

4.2.2. Case II: Alternative market of Tlaxcala ("*Tianguis Alternativo Tlaxcala*")

The alternative market of Tlaxcala opened in 2005, after a two-year preparation period. (key informant KI2/I1, Annex 12.2). The project was founded by local NGOs, which had been working with producers in the region for several years, offering capacity building and advisory to foster sound agro-ecological production and an improvement of producers' quality of life, together with producers looking for a way to sell their surpluses at better prices than paid by intermediaries. Besides, one of the main market founders was a consumer (AVILAN ORTEGA, S.A.). Among the main reasons for starting the project to mention were environmental concerns, worries due to unemployment, lack of opportunities and risks and damages to health (source: document provided by key informant KI2).

¹⁰ Before the market collective split into two groups, all market members paid a weekly fee of 60 MXN and market members had a common fund; after the splitting, one part of the market collective decided to reduce the fee as the fee of 60 MXN was difficult to pay for some vendors with low and unstable sales

In its beginnings, the market was supported by these Non-profit organizations some producers of the market were affiliated with, namely *Centro Campesino A.C.*¹¹ (KI2/I1) or *Vicente Guerrero A.C.*¹². For the two-year working phase before opening the market, these organizations also provided financial support (KI2/I1). Besides, through support from CIESTAAM, the market project from its very beginnings had been linked to *the Network*. Hence, some actors engaged in the project participated in networking events and activities organized by *the Network* already between 2004 and 2005 and the market later joined *the Network* (AVILAN ORTEGA, S.A; KI14/I4, project reports). The PGS was started in 2005.

At the time of data collection, some market members were members of the organizations *Vicente Guerrero A.C.* and *Centro Campesino A.C.* Apart from these two NGOS, the civil society organizations CEDUAM¹³, the ITC Botanical Garden¹⁴ and *Casa Presentación* were collaborating with the market.

Marketplace, market infrastructure and market stands

At the time of data collection, the market was held every Friday from 7am to 3pm. The market was held on a rectangular, open-air public square next to a church. The square was owned by the town council and market members could use it once a week free of charge (KI2/I1). Besides, members were renting a room for storing market infrastructure (KI2/I1), which was also used for holding General Assembly meetings (E8-E12, Annex 12.3). The rent was 1600 pesos a month. The market included 24 stands, of which 24 different *titulares* were responsible and which on average were attended by 45 vendors. Seventeen of these stands were selling exclusively food products, five were selling exclusively non-food products. At five stands exclusively prepared meals were sold and two stands sold food and non-food products. Market vendors included producers, processors and intermediaries alike. Most of the stands were market stalls which were put up and dismantled every market day (E8-E12). Market stalls, chairs and tables were owned by market members and had been bought by them (KI2/I1) (Figure 4). Products sold at the market included fresh vegetables and fruits, prepared meals and beverages such as quesadillas, tacos or *atole*, cheese and other dairy products, bread, meat, vegan meat, eggs, honey, seeds, processed amaranth products and beauty products such as shampoos, soaps and creams.

Financing of the market and the PGS

At the time of data collection, the market had no access to external funds and was working exclusively with resources contributed by its members (KI2/I1), who paid a weekly cooperation fee of 20 MXN. Besides, an additional fee of approximately 100 to 110 MXN per stand was paid every month for covering the rent of the storeroom. One part of the weekly fee (5 MXN) was used for covering common expenses for general maintenance. The other part (15 MXN) was paid to a common fund for savings¹⁵ (KI2/1). Costs for certification visits, which mainly regarded transport, were covered by a fee of 150 MXN paid by the operator visited. In case expenses exceeded this amount (e.g. due to bigger distances), members of the certification committee (participants in the visit) usually disbursed costs for the visit (KI 3/I1).

11 Centro Campesino para el Desarrollo Sustentable, A.C.

12 Integrated Rural Development Project Vicente Guerrero A.C. (Proyecto de desarrollo rural integral Vicente Guerrero A.C.)

13 Center for Environmental Education and Ecological Action (Centro de Educación Ambiental, CEDUAM)

14 Botanical Garden of the Palace of Culture in Tlaxcala (ITC)

15 Market members were planning to establish a loans system, wherein money could be lent to market members at low interest rates, for fostering mutual support; profits resulting from interest fees would be used for the operation of the certification committee; market members had started to pay into the common fund several years ago (KI2/I1).



Figure 4: Tlaxcala's alternative market (source: Kaufmann, Tlaxcala de Xicohténcatl 2016)

4.2.3. Case III: Alternative market “El Pochote Xochimilco”, Oaxaca (“*Tianguis Alternativo El Pochote Xochimilco*”)

The alternative market “*El Pochote Xochimilco*” was founded as a “spin-off” of the market “*El Pochote*”, which had been founded in Oaxaca in 2003 (key informant KI14/4, Annex 12.2) with substantial support from artist Francisco Toledo. Together with the organization PRO-OAX¹⁶, other artists and the first producers invited, he started the project and provided a place to hold the market free of charge (KI14/I4, AVILAN ORTEGA, S.A). The project’s objective was to offer sound products of high quality, support craftsmanship and, by means of workshops and other events, foster knowledge for promoting environmental protection. More explicitly, it was to promote consumption of organic, natural and traditional, native products, to avoid intermediaries and thus support fair trade and to foster certification of products, as well as capacity building of producers (AVILAN ORTEGA, S.A). For several reasons the marketplace was withdrawn by 2010, why vendors started to look for alternative options and places to henceforth hold the market. During this process divergences in opinions resulted in a division of the collective of market members and the formation of three markets, one of them, “*El Pochote Xochimilco*”.

The market started to take up its activities at the place it was located at the time of data collection in 2010 and was based on the same principles as the former market (KI5/I1). However, one of the central objectives and ideals as explained by its president was to contribute to the preservation of old agricultural techniques and methods of cooking, to prevent the loss of native (“*criollo*”) corn varieties, as well as ancient Mexican dishes and traditional ways of preparing them, the use of certain ingredients and the therewith related typical taste of Mexican cuisine (KI5/I1). The PGS was started the same year. The market is officially constituted as a civil association (A.C.) since 2010.

As many of the vendors who, at the time of data collection participated in the market, had already been a member of the “original” market “*El Pochote*”, it seems relevant to mention in this context, that within this market, members in its beginnings had established a system very similar to that of Internal Control Systems. Producers of the market had been trained by a third-party certification body and hence carried out the role of inspectors. According to ESCALONA (2009), conflicts throughout the implementation of this system lead to market

¹⁶ Patronato Pro Defensa y Conservación del Patrimonio Cultural y Natural de Oaxaca

members' decision to seek individual third-party certification (ESCALONA, 2009). For constructing the PGS in the “new” market, market members had received support from an engineer from a regional center of the University of Chapingo who had also been working for a third-party certification body at the time (KI5/I1, KI14/4). Furthermore, the market had joined *the Network* in 2010.

Marketplace, market infrastructure and market stands

At the time of data collection, the market was held Fridays and Saturdays from 8.30 am to 3 pm on a rectangular, open-air square which was located next to the neighborhoods' church and owned by the parish. It was provided by the priest free of charge (KI5/I1). Besides, market members were renting a small store room, about one block away from the market, which was used by some market members for storing the market infrastructure (tables, chairs, market stalls) (KI5/I1).

Most of the stands were stalls, including tables and some type of pavilion marking the stand (source: participant observation E13-E16, Annex 12.3). Market stalls had been bought with a donation from the government about three years before data collection. Tables, chairs and the rest of the furnishings used had been bought by market members. Those vendors who sold prepared food took care of maintenance of tables, chairs and tablecloths used for a common area in the center of the market (KI5/I1) (Figure 5).



Figure 5: Alternative market “*El Pochote Xochimilco*”, Oaxaca (source: Kaufmann, Oaxaca de Juárez 2016)

At the time of data collection, the market had approximately 59 stands which were attended by approximately 85 vendors (source: counted, E13-E16, Annex 12.3). Figuring out the exact number was difficult, as it differed between the first phase of data collection in November 2015 and the second phase of data collection in January 2016 and no clear information could be provided by key informants. Fifty of these stands were selling their products on both market days, nine either on Fridays or on Saturdays. Twenty-two stands were selling exclusively non-food products, 36 exclusively food products. At ten stands exclusively prepared meals were sold, one stand sold non-food and food products. Market vendors were producers, processors and intermediaries alike. Products sold at the market included artisanal crafts, prepared meals and beverages, fresh fruit and vegetables, coffee, *mezcal*, meat, honey, bread, eggs and seeds.

Financing of the market and the PGS

At the time of data collection, market members did not have access to external funds. All necessary expenses were covered by fees paid by market vendors (KI5/I1).

The market's regulation fixed three types of fees for market members: an admission fee, a fee paid per day of sales and extraordinary fees. The fee per day of sales was 25 MXN (KI5/I1) and used for paying common expenses, such as garbage bags. Besides, salaries for

two people employed for cleaning the marketplace and guarding cars were paid from the fees (KI5/I1). The rent for the storeroom was paid with an additional fee paid by those vendors who used it. Besides, they paid an additional cooperation for covering the salary of the cleaning personnel (KI5/I1). In addition, new market members paid an entrance fee of 1500 MXN when joining the market (KI5/I1, internal market regulation IR4, chapter 4.4.4), which was used for covering costs incurring in the certification visit (e.g. food, transportation, accommodation if necessary) and could vary, depending on distances to be covered (KI 5/I1). Once an operator was accepted as a market member, follow-up visits had to be paid by the operator visited. In case incurring costs were high, expenses partly were covered by the fund of weekly cooperation fees¹⁷.

4.3. Interview Partners

Interview partners were vendors (producers, processors and intermediaries) and consumers of the three markets, contacts from the University of Chapingo and people affiliated with two other institutions.

4.3.1. Interview partners in semi-structured and informal interviews

For choosing key informants to participate in semi-structured and informal interview, I used purposive sampling as a non-probability sampling strategy, following BERNARD (2011). This strategy seemed to be most appropriate, as the purpose of conducting interviews was to collect specific general information about market and PGS structures and the certification process. Therefore the purpose was pretty clear from the beginning (BERNARD, 2011). Interview partners were market vendors holding key positions in the markets, as well as people from academia and one government institution, who had been working in the field of organic agriculture, local organic markets and PGS in Mexico for years (Table 8 and Annex 12.1).

Table 8: Number and type of interview partners who participated in semi-structured and informal interviews

Type of Interview partner	Market, organization or institution interview partner was affiliated with	Number of informants	Number of conversations
a. Semi-structured and informal interviews with market members			
Market Coordinator	Chapingo	1	1
	Tlaxcala	1	3
	Oaxaca	1	2
Member of Certification Committee	Tlaxcala	1	2
b. Key informants affiliated with other institutions			
Academia	University of Chapingo (informal)	2	each 5 and 1
	Autonomous university of San Luis Potosi / organic market “Macuilli Teotzin” (Semi-structured via email)	1	2
Government	- (Semi-structured)	1	1

¹⁷ According to the market's internal regulation, expenses for gas were always covered by the market's common fund while expenses for food and accommodation (if necessary), would have to be paid by the producer or processor visited (IR4).

4.3.2. Vendor and consumer survey participants

I conducted surveys with 60 vendors and 61 consumers engaged in the three markets (Table 9).

Table 9: Number of interview partners who participated in the vendor and the consumer survey in Chapingo, Tlaxcala and Oaxaca (absolute number of surveys, share of vendor survey participants of the total number of market vendors, share of vendor survey participants of the total number of vendors selling food products)

Type of interview partner	Market	Number of surveys	% of total number of vendors selling products at the market	% of total number of vendors selling food products at the market	Total number of surveys
Vendors	Chapingo	22	88%	96%	60
	Tlaxcala	15	63%	79%	
	Oaxaca	23	39%	62%	
Consumers	Chapingo	21	no valid data on average number of consumers attending the market available		61
	Tlaxcala	19			
	Oaxaca	21			

For consumers, I defined the population as the totality of consumers attending the respective market on a certain day of data collection. For selecting interviewees from this population, I chose random sampling technique, meaning that *“every element [consumer] of this population had the same probability of being chosen as an interviewee* (RAAB-STEINER AND BENESCH, 2010 CIT. BORTZ 2010, P.87)”. Hence, I randomly asked consumers for their willingness to participate in the survey. I paid attention to not stick too much to one specific spot in the market for reducing biases due to characteristics of certain stands (e.g. prepared meals etc.). Strategic spots such as the entrance to the market building were spots frequently chosen. The sample size in the end was determined by time capacities and a result of what I was able to do on two (Chapingo), one (Tlaxcala) and one and a half (Oaxaca) market days dedicated to conducting of consumer surveys.

For vendors, I defined the population size reducing it to those vendors selling food-products, either fresh or processed food or prepared meals and beverages. I decided to do this due to limited time capacities and the thus resulting necessity to limit the population size, especially for the market in Oaxaca. The decision to exclude those vendors who were exclusively selling non-food products was made due to the fact that PGS as a certification scheme does not apply to these products in a narrow sense. Among the population thus defined, I applied convenience sampling following BERNARD (2011). The selection of participants for the survey hence was basically determined by vendors' willingness to participate in the survey, their possibility to do so due to time available during market days and the resources I personally had available to conduct the surveys. I decided in favor of this strategy, as an initially planned comprehensive survey was not feasible in the end. Besides, before starting my work, I did not have information necessary for conducting a probability survey. Furthermore, local market realities, that is, social dynamics at the marketplace during market days, time resources of vendors as well as my own time capacities made it necessary to *“[grab] whoever [would] stand still long enough to answer [my] questions* (BERNARD, 2011 P.191)“.

Differences between the markets regarding proportional sample sizes resulted on the one hand from the differences in time for data collection I had at my disposal at the different markets. On the other hand, they were a result of the fact that I started survey data collection in Chapingo, with the idea of doing a comprehensive survey, without knowing about the number of vendors the remaining two markets would consist of. Besides, due to the situation prevailing among market members in Chapingo at the time of data collection, I decided to still strive for doing a comprehensive survey at least in this case, in order to ideally include all

opinions. The final number of surveys was a result of what I managed to conduct given my time constraints. Regarding possible biases, it seems relevant to mention that in Chapingo I had to spare out one vendor who refused to participate in the survey, while in Tlaxcala four vendors were not surveyed basically due to time constraints. In three cases these were stands exclusively selling prepared meals – which were usually the busiest stands during market days. In Oaxaca, in two cases it wasn't possible to conduct the survey due to difficulties regarding communication and understanding.

4.4. Data collection and research instruments

I decided to choose various data collection methods in order to adequately address the research topic in its different dimensions and on the different levels of social aggregation present in the three cases (following GLÄSER AND LAUDEL, 2010). Semi-structured interviews and the review of key internal documents provided general information on the markets and their PGS as outlined and constructed on a systems level, while vendor and consumer surveys should provide a more profound insight into the perspective of a bigger number of actors engaged on a grassroots level. Besides, surveys allowed for collecting a larger amount of quantifiable data and for conducting statistical analysis afterwards. In addition, I carried out direct and participant observation during various events (for a detailed overview on research questions and hypotheses and assigned data collection methods see Annex 12.1).

4.4.1. Vendor and consumer survey

For surveys with vendors and consumers I used two different questionnaires, addressing research questions I.3, I.4 and II. Questionnaires were composed of closed-ended and open-ended questions and were divided into different sections, covering the following topics: Sociodemographic data, the respective organic market, organic agriculture in general (production or consumption), the market's certification system, standards and documents, capacity building and learning, trust and actors' perception of problems and potentials for improvement (Annex 12.5 and 12.6). In order to adequately collect data necessary for answering research questions, I used open-ended questions as well as nominal scales (dichotomous and multiple), ordinal scales and Likert rating scales and collected metrical data, especially regarding socioeconomic aspects.

For developing questionnaires, I used the PGS-framework (chapter 2.2.2) outlined by IFOAM (2007) as one basic foundation. I operationalized the therein defined Basic Elements and Key Features, developing dimensions, variables and indicators for data collection regarding the general functionality and status quo of implementation of these elements and features by markets' PGS, in order to find out if and how these elements and features were put into practice within the markets studied. Starting from this frame for a general description of markets' PGS and based on prior studies on PGS by BOUAGNIMBECK (2014), ESCALONA (2009), FONSECA (2004), GÓMEZ (2013), GUTIÉRREZ-PÉREZ ET AL. (2013), KÄLLANDER 2008, MAY 2008, NELSON (2012), NELSON ET AL. (2007), NELSON ET AL. (2008) and NELSON ET AL. (2010), I formulated hypotheses and thus additional indicators, variables and items for data collection. For research question II, I included one nominal scaled and 3 open ended questions, covering problems experienced and suggestions for improvement (Annex 12.1).

I developed a first version of the questionnaires before starting my field stay and then further revised and finalized them when already in the field during various rounds of pre-testing (Table 10). Pre-tests were carried out in Chapingo's market, during the market's opening hours, thus, under the same conditions the final survey was going to be conducted (following BERNARD, 2011).

Table 10: Pre-testing of questionnaires conducted with vendors and consumers in Chapingo (number of surveys per round of pre-test for each actor group)

Number of pre-testing round	Actor Group	Number of Surveys
1	Vendors	2
	Consumers	3
2	Vendors	7
	Consumers	5
3	Vendors	2

During pre-testing I paid special attention to clarity and comprehensibility of questions, their adequacy in the specific local context, amount and variety of options for closed-ended questions with single- or multiple-choice set variables, logical order of the questions and duration of the surveys, following suggestions of MICHEEL (2010). Based on experiences made during pre-testing I added some new questions for issues that seemed to be important only when already in the field. These questions were mainly related to the market.

Final wording of the questions was done in collaboration with colleagues from the University of Chapingo. Some of the questions used were adapted from the studies of NELSON (2012) and GÓMEZ (2013) on local organic markets and PGS in Mexico.

I conducted consumer surveys as well as surveys with vendors in Tlaxcala and Oaxaca face-to-face directly at the market during opening hours. In Chapingo, I conducted 13 surveys with vendors either at interviewees' houses or at some place on the university campus, due to the lack of time of many vendors during the market day and their preference for answering the survey in a different situation. Besides, this allowed for focusing on surveys with vendors from farther away during market days. I filled out the questionnaire in the majority of cases, some interviewees, however, preferred to do it on their own. Furthermore, some vendors in Tlaxcala and Oaxaca preferred to keep the questionnaire to fill it out throughout the day, due to scarce time resources during opening hours. In these cases, I gave them a short explanation on the questionnaire and controlled questionnaires when recollecting them, including discussing and clarifying potential doubts and misunderstandings.

4.4.2. Semi-structured and informal interviews with key informants

Semi-structured and informal interviews addressed all research questions. I chose the semi-structured format following BERNARD (2011), as it gave interviews some structure and helped to make efficient use of interviewees' time to participate in my research. At the same time, the format left enough space for flexibility and allowed to get a deeper insight in the interviewees' knowledge about the topic as well as aspects relevant from their point of view (DiCICCO-BLOOM AND CRABTREE, 2006).

In addition, I conducted informal interviews basically all the time during my field stay, during market visits, farm visits, in meetings or during daily routine at the university.

As suggested by BERNARD (2011), I daily dedicated time to writing protocols and updating my field journal in order to record information collected informally during the day (BERNARD, 2011). I often took notes during the day and elaborated detailed protocols in the evening. I chose to include this interviewing technique as data collection method basically due to local realities, social dynamics and local communication habits. Topics important in the context of my research frequently came up during casual, informal conversations during the market day. Besides, it sometimes was not that easy to fix a date and time in order to conduct an interview in a quiet, structured atmosphere, why informal interviewing was the only option (BERNARD, 2011). Hence, I discussed many things with key informants during several, short conversations throughout my field stay.

I developed interview guides for semi-structured interviews based on a profound web- and literature research on local organic markets and PGS in Mexico before starting my field stay. I developed themes, categories and related interview questions in an iterative process while

structuring information available about Mexican markets and PGS. Based on these categories, I formulated guiding-questions for conducting interviews with key informants. When already in the field, I developed additional questions that only then turned out to be relevant (Annex 12.1).

4.4.3. Direct and participant observation

I used direct and participant observation as supporting data collection technique following BERNARD (2011), as during first market visits I noticed that it would give me a much better understanding of local market realities. Besides, in some cases certain information could not be collected by means of other data collection techniques (e.g. number of stands, product types sold at stands) and information collected through observation seemed to be relevant for establishing a more complete picture of markets and their PGS. I conducted observation during market days, meetings between actors from the University of Chapingo and market members, one General Assembly meeting in Tlaxcala and during farm visits (Annex 12.4).

The type of observation carried out most frequently was participant observation, simply due to the fact, that I attended most of the markets as a consumer, hence performing a certain role (following YIN, 1994). I also conducted participatory rapid assessment (PRA) following BERNARD (2011), especially during the initial phase of data collection, when arriving at a new market and immediately starting to collect data (e.g. mapping the market, taking notes of products sold for each stand, etc.) without intense rapport building with all market members beforehand. However, rapport was increasingly built over the time I spent at the markets and observation got a more and more participant character. Besides, as I attended case study markets various times over a period of up to six months, it simply wasn't possible anymore to act as a non-participating observer. Hence, my role as an observer shifted from the one of a participating observer to the one of an observing participant throughout my field stay (BERNARD, 2011). The most important data collected by means of observation was related to the number of stands, product types, labelling methods, the number of people attending stands, market infrastructure and interactions between market members as well as market members and external actors (Annex 12.9).

4.4.4. Key documents of markets and other data sources

As additional data source I used several internal documents of the three markets (Table 11). These documents addressed research question I and hence served for describing markets' organizational structures and functionality, the certification process as laid down and some variables defined for research question I.3 (Annex 12.1). They mainly allowed for complementing information provided by key informants and for making inferences, especially when evaluating the degree of documentation of markets and their PGS, with regard to "documentation" as one key feature of PGS to be studied. Furthermore, they sometimes served for verifying certain information provided by key informants in interviews, which on some occasions was necessary due to language issues. Besides, while still in the field I sometimes made out contradictions between information documented in internal documents and information provided by key informants, which lead to further inquiry and impetus for investigation (YIN, 1994).

Table 11: Internal documents of case study markets which were used as data source (IR1-4: abbreviations used for citing documents throughout the thesis)

Market Case	Type of document
Chapingo	<ul style="list-style-type: none"> • Internal market regulation, version 2015 (IR1) • PGS regulation, version 2016 (IR2) • Questionnaires used for participatory certification process, four different versions • Example of letter outlining certification decision
Tlaxcala	<ul style="list-style-type: none"> • Internal market regulation (IR3) (According to two key informants the market did also have a written regulation for the participatory certification process; it was not possible to access it and include it in the analysis made for this thesis) • Questionnaire used for participatory certification process, one version • Example of letter outlining certification decision • List of stands, responsible vendors and products sold • Format used for surveillance of compliance at the marketplace (blank format and example) • Power point presentation on the market including history, values, principles and objectives, provided by market coordinator
Oaxaca	<ul style="list-style-type: none"> • Internal market regulation (IR4) • Questionnaires used for certification process, three different versions • Example of farm visit report

Apart from internal documents of the respective markets, I used some documentation of *the Network* I had access to in the offices of the University of Chapingo. These documents were mostly related to the history of *the Network* and the respective markets in some cases, namely events, processes, reunions, meetings, workshops etc. carried out in the past. Moreover, I reviewed project reports of the various projects which provided financial resources for Chapingo's organic market as well as for *the Network* (following YIN, 1994).

4.5. Data storage and data analysis

4.5.1. Vendor and consumer survey data

To store data from survey questionnaires, I transferred them into MS Excel already during my field stay.

In the case of qualitative data from open-ended survey questions, I used a combination of in-vivo coding and descriptive coding and assigned codes developed inductively, following SALDAÑA (2013), in order to allow for quantitative analysis. This concerned survey data about problems experienced by respondents, suggestions for improvement made, products sold at the market and reasons for participating in the certification committee and in peer review visits. I chose to apply these two types of first-cycle coding strategies in order to stay close to survey respondents' opinions and to allow for transcending to a more conceptual level of analysis at the same time (SALDAÑA, 2013). Inductively quantified qualitative data was then analyzed using frequency counts and cross-tabs.

For quantitative statistical data analysis, I used SPSS software, following BÜHL (2016). The license was provided by BOKU University. Apart from descriptive statistics calculated for metric data, I most frequently used crosstabs for data analysis, as most of the data was ordinal or nominal scaled.

I further used the Chi-square-test, Fisher's exact test, Freeman-Halton test, the Kruskal-Wallis-H test, the Mann-Whitney-U test and the Kolmogorov-Smirnov test, applying a significance level of 5% (BORTZ AND DÖRING, 2006). For testing metric data for normal distribution, I applied the Kolmogorov-Smirnov test (BÜHL, 2016).

I used the Chi-square-test to test for significant associations between variables in the case of most nominal and ordinal-scaled variables. Due to the small sample size I combined different response options into one category in the case of ordinal scaled variables. The number of categories thus was reduced to three categories (negative, neutral, positive) for the purpose of fulfilling the basic test-assumption of less than 20% of contingency cells in crosstabs having expected counts of less than five (BÜHL, 2016; PAIER, 2010). The same procedure was applied for data regarding respondents' educational background (resulting categories: elementary education/high school, higher education). However, I always ran tests for the original scale first.

Due to the small sample size, it often happened that basic assumptions of the Chi-square-test were violated. Therefore, I used exact tests. For dichotomous variables I applied Fisher's exact test (JANSSEN AND LAATZ, 2010). For contingency tables with more than 2x2 cells, I applied the Freeman-Halton test for unordered $r \times c$ tables. Freeman-Halton test is an extension of Fisher's exact test, proposed by Freeman and Halton (1951) for contingency tables bigger than 2x2 cells (MEHTA AND PATEL, 2012). It is available in the exact test module of SPSS, test results are labeled as Fisher's exact test in the SPSS test output (BÜHL, 2016; MEHTA AND PATEL, 2012).

For further interpreting results of Chi-square tests, Fisher's exact tests and Freeman-Halton tests, I analyzed standardized residuals (BÜHL, 2016). Besides, in the case of significant results, I used the contingency coefficients Phi for dichotomous variables and Cramer's V for variables with more expressions (PAIER, 2010).

Due to the level of measurement and the lack of normal distribution I used non-parametric tests in the case of metric data, as well as for some ordinal-scaled data (PAIER, 2010). As tested samples were independent, the Mann-Whitney-U test was applied in the case of two samples and the Kruskal-Wallis-H test for comparing more than two samples (e.g. for testing statistical significance between markets). These two tests are rank-sum tests which test differences between samples regarding the central tendency of distribution. The precondition for these tests is that tested variables are at least ordinal scaled (JANSSEN AND LAATZ, 2010), a precondition that was fulfilled by variables used in these tests. According to BÜHL (2016) these tests are not sensitive to outliers as they are not based on measured values but on ranks assigned to these values. In case the Kruskal-Wallis-H test showed significant results, I applied Mann-Whitney-U tests between sample pairs, using the Bonferroni correction and reducing the significance level adequately by dividing it by the number of different samples compared (RUMSEY, 2008). As the total number of cases then, as well as in some other cases was often smaller than 30, I used exact tests (BÜHL, 2016). In the results part, it will be indicated whether reached significance levels refer to exact tests or not. I also used exact p-values in the case of ordinal-scaled variables, due to the number of ties, and in cases the size of the two samples compared showed bigger differences (BÜHL, 2016). I applied the Kolmogorov-Smirnov test in addition to the Mann-Whitney-U test in the case of ordinal-scaled variables due to the fact that the number of categories for these variables was limited. As suggested by BÜHL (2016), Mann-Whitney-U test in these cases has the disadvantage of a high number of shared ranks leading to an unclear ranking (BÜHL, 2016). The Kolmogorov-Smirnov test is based on the same assumptions as the Mann-Whitney-U test and calculates the maximum difference between the cumulative frequencies of the two samples compared (BÜHL, 2016).

I conducted all descriptive analyses for the total sample first, following analyses for the respective cases. In the case of ordinal-scaled data I calculated means and analyzed data for all three cases, combining response options into a fewer number of categories and using crosstabs. Hypotheses were tested for the total sample. In case of significant results, I tested respective variables for significance between the markets, conducted inter-case analysis and compared results for the respective cases.

4.5.2. Qualitative data from interviews, observation and documents

I recorded interviews with market coordinators and the member of the certification committee using a digital voice recorder (Olympus DS-30) and transcribed resulting audio files already during field research, using a free-ware demo version of Express Scribe software (provided by NCH software).

For semi-structured and informal interviews with other key informants, I took notes during the interview and made more detailed protocols based on these notes afterwards (following BERNARD 2011).

In the case of direct and participant observation at the marketplace, I started with a census of the group of market vendors and the drawing of sketches and market maps. This provided the basis for orientating myself at the market and served the collection of data regarding the number of stands, product categories and number of people attending the stands. If necessary, I updated these maps during each visit and digitalized them after each market day, using MS Excel (Annex 12.9). For most cases of participant observation, I made notes and field jottings directly during observation and more detailed observation protocols afterwards. In cases it was not possible to make notes and jottings throughout the event, I tried to catch up on it the next possibility I got for writing things down (BERNARD, 2011). In addition, I made field notes and kept a diary which I updated almost every day of my field stay (Table 31, Annex 12.4).

For qualitative data analysis, I coded resulting documents (Annex 12.4) using Atlas.ti software (provided by the AGWI working group at BOKU University). I used eclectic coding and applied a mix of provisional coding and sub-coding. Besides, I combined inductively and deductively developed codes, following SALDAÑA (2013). I chose this strategy due to the lack of experience with the process of coding and the variety of data forms used. Besides, the research design and the formulated research questions did not make second cycle coding methods absolutely necessary for fulfilling research objectives (SALDAÑA, 2013).

I chose provisional coding to start analysis with, as conducted interviews were relatively clearly structured and the purpose of therewith collected data within the frame of this thesis, that was, to describe organizational structures, the functionality of the certification process, the way certain elements and features of the IFOAM PGS framework were translated into practice in the three markets studied and the problems, challenges and potentials for improvement perceived by market vendors in key positions, was clear (SALDAÑA, 2013). Hence, I used a preliminary set of codes, developed based on my research questions, variables and indicators derived to answer them and interview guides applied for data collection as a starting point. I assembled a first draft of this codebook already during my field stay and extended it by codes related to additional topics that arose while transcribing interviews and writing protocols. During the first rounds of coding I added additional codes, developed inductively while noticing new things during the process, building on the NCT model of qualitative data analysis as suggested by FRIESE (2012). Hence, I continuously adapted the codebook by renaming, re-structuring, deleting and/or replacing codes.

In addition to provisional coding, I used sub-coding. After some first rounds of provisional coding, I additionally assigned second order codes to some data, in order to allow for intra- and inter-case analysis with a different focus than just a descriptive one (SALDAÑA, 2013).

After a first round of coding I created code families and used Atlas.ti's network view tool for cross-checking coding results with my research design and identifying new patterns. In total I conducted 2 rounds of coding, each carried out as an iterative process for adjusting the codebook and double-checking already analyzed documents every time new aspects appeared.

Data was further analyzed by means of content analysis, in order to describe markets' organizational structures, the certification process applied and how the different elements

and features analyzed were put into practice in the three cases (BERNARD, 2011). For further analysis, I used matrices as a display format, as suggested by MILES ET AL. (2014). The design of these matrices was guided by the research questions and the research design. Most matrices were designed as an intersection between different variables (e.g. variables defined for describing elements and features of the IFOAM PGS framework) and the three market cases in order to allow for cross-case analysis and for identifying common patterns. In some cases, I started with matrices for each market and combined data by means of further analysis into one final table. Besides, first patterns identified and first conclusions drawn from this matrices were checked against field notes and raw data in order to confirm and verify them and to check if further revision was needed (MILES ET AL., 2014). For some elements and features of the IFOAM PGS framework analyzed, matrices were also used as the final format for displaying and reporting results. In other cases, matrices only served as an intermediate format for analysis and prose text seemed to be the format most convenient for reporting results (MILES ET AL., 2014).

4.6. Sample description of the vendor and consumer survey

4.6.1. Vendor survey participants

Sociodemographic data of vendor survey participants

The total sample of market vendors was composed of 31 men (51.7%) and 29 women (48.3%). The arithmetic mean age was 47 years. The youngest person surveyed was 23, the oldest 83. 45% of respondents had a university, masters or doctoral degree. 18.3% reported secondary school as highest level of formal education completed, 16.7% primary school and 10% high school. 3 respondents (5%) had not completed primary school (n=60) (Table 12).

Table 12: Vendor survey sample - sociodemographic data of vendor survey participants in Chapingo, Tlaxcala and Oaxaca

Market	CHAPINGO (n=22)	TLAXCALA (n=15)	OAXACA (n=23)
Sex (n=100%)			
female	54.5%	32.3 %	52.2%
male	45.5%	66.7%	47.8%
Age (mean)			
maximum	83	62	82
minimum	31	25	23
Education (n=100%)			
University, master's or doctoral degree	63.6%	26,7%	39,1%
High school	-	20%	13%
Secondary school	9.1%	46.7%	8.7%
Primary school	9.1%	6.7%	30.4%
Primary school (not completed)	9.1%	-	4,3%
Other	9.1%	-	4,3%

Vendor survey sample data related to agricultural production

Fifty-five survey participants reported to manage agricultural production units. The arithmetic mean of the size of production units managed was 20.5 ha (n=54). Excluding the extreme outlier of 900ha, the mean dropped to 3.86ha (n=53). In 75% of the cases managed production units were not bigger than 4.25 ha and half of the producers reported to manage units not bigger than 1.6 ha (median: 1.625 ha, 3rd quartile: 4.25 ha). The smallest area indicated was 30m². Mean experience with organic agriculture indicated was 14 years (n=54). The respondent with least experience in organic agriculture had been practicing it for

one year, the maximum value indicated was 60 years. Besides, five respondents reported to have been practicing organic agriculture their whole life (Table 13).

Table 13: Vendor survey sample – size of production units managed by vendor survey participants and vendor survey participants' experience with organic agriculture in Chapingo, Tlaxcala and Oaxaca

Market	CHAPINGO (n=18)	TLAXCALA (n=15)	OAXACA (n=21)
Size of production units managed (mean)	53.6 ha	2.9 ha	4.6 ha
minimum	30m ²	400m ²	100m ²
maximum	900ha	8.5ha	50ha
Experience with organic agriculture (mean)	15.8	16.1	11
maximum	4	1	2
minimum	60	60	35

Sample data related to vendors' participation at the market

In Chapingo, almost one third (31.8%) of respondents had joined the market in 2003, when it was founded. By 2005, 59.1% were already a member and in 2008 it was 81.7% (n=22). In Tlaxcala, 40% of survey participants had been a member of the market since its year of inauguration in 2005 and another third (33.3%) had joined the market between 2005 and 2009. By 2010, 80% of respondents had already been a member of the market (n=15). In Oaxaca, 72.7% of respondents had joined the market before 2010, meaning that they already had been a member of the former market "*el Pochote*". Another four respondents had joined the market between 2010 and 2012 (18.1%) and two respondents did so only in 2015 (n=22). One respondent was not able to remember how long he had been a member of the market for. Besides, two respondents indicated that they had joined the market in 2001 or 2002. If these respondents had participated in some kind of preparatory phase before the market's inauguration in 2003 and therefore indicated an earlier date, or were facing difficulties in recalling the exact year did not become clear (Figure 6).

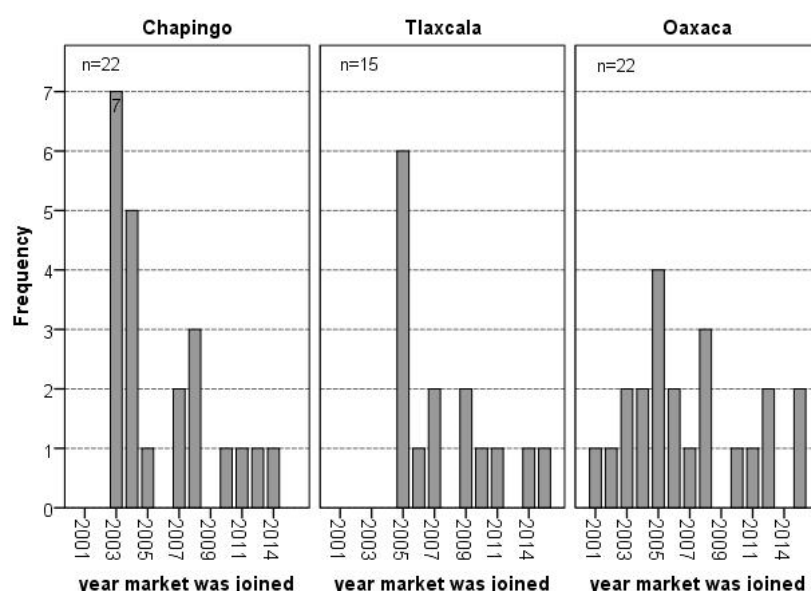


Figure 6: Year when vendor survey participants joined the market in Chapingo, Tlaxcala and Oaxaca (absolute frequencies, n=59)

With regard to the frequency of market participation 90.9% of respondents in Chapingo sold their products every week, while two respondents came only every two weeks. In Tlaxcala, all respondents reported weekly participation. In Oaxaca, 82.6% participated on two market

days a week, while 4 respondents sold their products either on Fridays or on Saturdays. Products sold at the markets included fresh fruits and vegetables, processed products and prepared meals and beverages, amongst others (Figure 7).

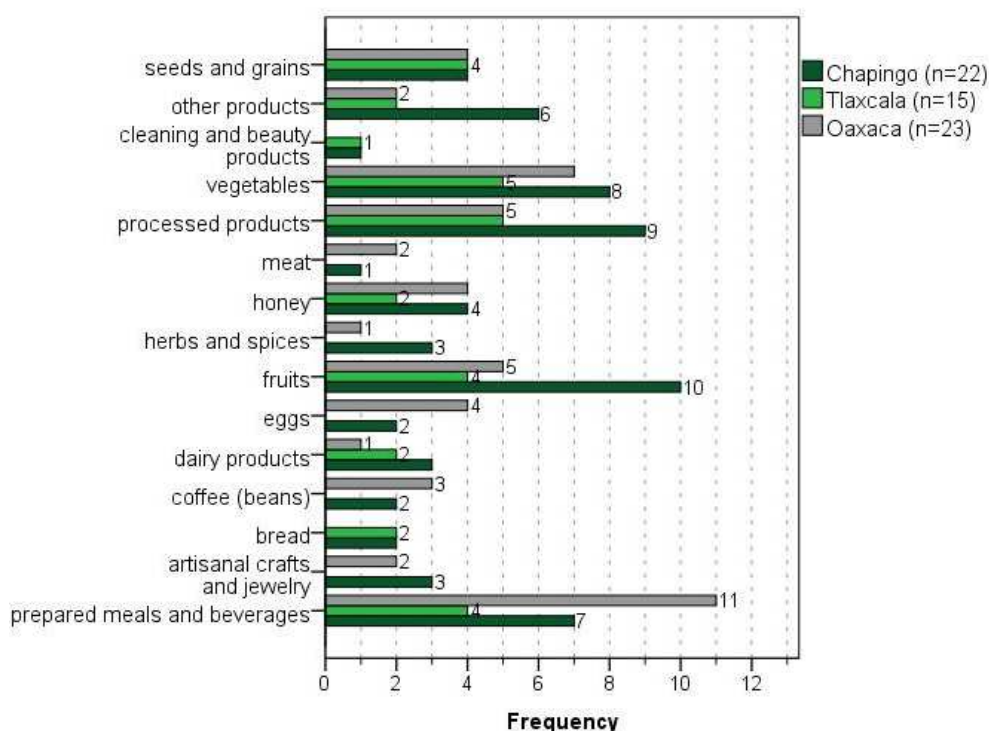


Figure 7: Products sold by vendor survey participants at the market in Chapingo, Tlaxcala and Oaxaca (absolute frequencies, open question, n=60)

For 20% of all respondents, market sales were their only income source. Mean market sales per week amounted to 2006 MXN, with a minimum of 250 MXN and a maximum of 6000 MXN. The median was 1500 MXN (n=56). Besides, a majority of 61.7% of all respondents reported to sell their products in other places than the respective market (Table 14).

Table 14: Vendor survey sample - basic market related data of vendor survey participants in Chapingo, Tlaxcala and Oaxaca

Market	CHAPINGO	TLAXCALA	OAXACA
Market sales per week	(n=20)	(n=14)	(n=22)
mean (MXN)	2522	1612	1786
maximum (MXN)	6000	3800	5000
minimum (MXN)	400	375	250
Selling products in other places (n=100%)	(n=22)	(n=15)	(n=23)
yes	72.7%	66.7%	47.8%
no	27.3%	33.3%	52.2%
Other income source apart from sales at the market (n=100%)	(n=22)	(n=15)	(n=23)
yes	90.9%	93.3%	60.9%
no	9.1%	6.7%	39.1%
Distance between home and market	(n=18)	(n=13)	(n=15)
mean	44 km	23 km	48 km
maximum	350 km	45 km	212 km
minimum	1 km	5 km	2 km
Time needed to go to the market	(n=22)	(n=15)	(n=19)
mean	49 min	50 min	80 min
maximum	4 hours	1 hour 15 min	6 hours
minimum	5 min	10 min	15 min

The mean distance between vendors' place of residence and the marketplace was 39.4 km, with a minimum distance of one and a maximum distance of 350 km. Seventy-five percent of respondents lived within a distance of up to 40.5 km to the market, the median was 20 (n=46). Ten survey participants reported production sites to be located in places different to their place of residence. The mean distance between these production sites and the market was 253.5 km. The production sites located farthest away were at a distance of 1200 km and 25% of the sites were located at 282.5 km or more from the market (3rd-quartile: 282.5 km, n=8). The arithmetic mean of the time needed to go from their places of residence to the marketplace reported was almost an hour (59.68 minutes). However, for 25% of respondents more time was needed to go there (3rd-quartile: 60 minutes) (n=56). The maximum value reported was six hours, the minimum five minutes. For production sites the arithmetic mean of the time needed to go there was four and a half hours (275 minutes), with a minimum of 40 minutes and a maximum of thirteen hours and thirty minutes (n=8).

4.6.2. Consumer survey participants

Sociodemographic data of consumer survey participants

Thirty-two men (52.5%) and 29 women (47.5%) participated in the consumer survey. The mean age was 45 years. The oldest consumer surveyed was 74, the youngest 21 years old. The mean household size was three, with a minimum of one and a maximum of 15 people living in a household. The mean number of children under the age of 18 per household was 0.67, with a range between nine and zero. Seventy-one percent (70.6%) of survey participants reported a university, master or doctoral degree as the highest level of formal education completed. Twenty percent (19.7%) had finished high school, one participant (1.6%) secondary school and two (3.3%) primary school (n=61).

Regarding the mean net household income per month, 41.4% of respondents reported values up to 9.000 Mexican pesos. About one third (31%) had incomes between 9000 and 15 000 pesos. Fourteen percent (13.8%) reported net household incomes between 15 000

and 21 000 and an equal share indicated that their income was higher than 21 000. Nine percent (8.6%) reported incomes of less than 3 000 pesos (n=58) (Table 15).

Table 15: Consumer survey sample - sociodemographic data of consumer survey participants in Chapingo, Tlaxcala and Oaxaca

Market	CHAPINGO	TLAXCALA	OAXACA
Sex (n=100%)	(n=21)	(n=17)	(n=21)
Female	52.4%	42.1%	47.6%
Male	47.6%	57.9%	52.4%
Age (mean)	51.05	47.53	37.95
Household size (mean)	2.52	3.11	3.57
Children < 18 living in household (mean)	0.48	0.72	0.81
Education (n=100%)			
University, master or doctoral degree	71.5%	47.4%	90.5%
High school	14.3%	42.1%	4.8%
Secondary school	4.8%	-	-
Primary school	4.8%	5.3%	-
Other	4.8%	-	4.8%
Average net household income (n=100%)	(n=20)	(n=17)	(n=21)
< 3 000	5%	11.8%	9.5%
> 3 000-9 000	20%	58.8%	23.8%
> 9 000-15 000	35%	17.7%	38.1%
> 15 000-21 000	20%	11.8%	9.6%
>21 000	20%	-	19.1%

Sample data related to consumers' market attendance

The arithmetic mean of the time consumers had been attending the market for was four years. The consumer with the longest participation had been attending the market for 12 years, the one who started to attend it most recently did so one month before data collection. The median was two years and 75% of respondents had been attending the market for up to six years (3rd quartile: 6.375) (n=56). Five survey participants visited the market for the first time. Forty-three percent (42.6%) of respondents attended the market on a weekly basis and another 9.8% visited it three times a month. Fifteen percent (14.8%) reported to attend it every two weeks, 19.7% once a month.

The mean time spent in the market reported by respondents was one hour and 20 minutes (81.2 minutes). The maximum value indicated was five hours, the minimum eight minutes. However, 75% of respondents spent more than one hour at the market (1st quartile: 60 minutes) (n=56). The mean distance between respondents' homes and the marketplace was 9.2 km, the minimum was 500 m and the maximum 50 km. Seventy-five percent (75%) of respondents lived within a distance of 13.5 km from the market (n=54). The mean time needed to go to the market was 22 minutes, with a range between 3 and 75 minutes (n=60).

When asked for the share of products purchased at the market in respondents' total food consumption, 27.9% reported a share of up to ten percent, 27.9% a share between 11 and 25%. Another fifth (21.3%) indicated market purchases to make up for 26 to 50 percent of their total food consumption, 16.4% stated that it was between 51 and 75%. Four respondents (6.6%) stated that it was even between one third and a hundred percent.

The average spending per market visit ranged between 30 and 2 000 Mexican pesos. The mean was about 330 pesos (329.66) and 75% of respondents did not spend more than 400

pesos per visit (3rd quartile: 400) (n=59). A majority of 59% reported to buy organic products in other places as well (Table 16).

Table 16: Consumer survey sample - market related data of consumer survey participants in Chapingo, Tlaxcala and Oaxaca

Market	CHAPINGO	TLAXCALA	OAXACA
Time market has been attended	(n=19)	(n=18)	(n=21)
<i>mean</i>	4.9	3.5	3.8
<i>median</i>	5	2	2
Frequency of market participation (n=100%)	(n=21)	(n=19)	(n=21)
<i>every week</i>	42.9%	42.1%	42.9%
<i>3 times a month</i>	4.8%	15.8%	9.5%
<i>every 2 weeks</i>	19%	15.8%	9.5%
<i>once a month</i>	14.3%	15.8%	28.6%
<i>once every two months</i>	4.8%	-	-
<i>twice a year</i>	4.8%	-	-
<i>seldom</i>	-	5.3%	-
<i>for the 1st time</i>	9.5%	5.2%	9.5
Time spent on the market per visit (mean)	1h 26 min	1h 16min	1h 20min
Distance to the market (mean)	12.3 km	5.47 km	9.88 km
Time needed to go to the market (mean)	26.23 min	16.4 min	22.85 min
Share of products purchased at the market on total food consumption (n=100%)			
0-10%	19%	42.1%	23.8%
11-25%	28.6%	15.8%	38.1%
26-50%	19%	15.8%	28.6%
51-75%	19%	21.1%	9.5%
76-100%	14.3%	5.3%	-
Average spending per market visit			
<i>mean</i>	575 MXN	150 MXN	270 MXN
Purchasing organic products in other places (n=100%)			
<i>yes</i>	57.1%	36.8%	81%
<i>no</i>	42.9%	63.2%	19%

5. Results

All three case study markets had implemented a Participatory Guarantee System for providing quality assurance of products sold at the market. It was practiced based on participatory certification committees put up in the market and formed by market vendors - with more or less participation of other stakeholders. This committee was one of several other committees and organizational units that had been formed for organizing the common commercialization of products at the weekly market, the PGS and other collective activities.

Hence, the first part of this chapter will focus on a general description of the organizational structures of markets and their PGS. Besides, the general functionality of the participatory certification process will be explained. The following chapter will focus more explicitly on the markets' PGS and provide an analysis based on selected elements and features of the IFOAM PGS framework. Then, the focus will be put on the status quo of markets' participatory certification processes, with regard to vendors' status of certification and their perception of the process. Afterwards, results regarding problems experienced and potentials for improvement suggested by vendors and consumers engaged in the three PGS will be presented.

5.1. Organizational structures of markets and the general functionality of the participatory certification process

All three markets had implemented very similar organizational structures. They had a General Assembly ("*asamblea general*"), the collective of all market vendors, as a body of paramount importance for the discussion of topics regarding the market and decision-making. They had a general market coordination ("*coordinación*") or Directive Board ("*mesa directiva*"), in charge of the general market organization and a committee for participatory certification ("*comité de certificación participativa / comisión de certificación*", hereinafter referred to as "certification committee"). In addition, various other committees had been formed. The number, names, tasks and responsibilities of these committees differed among markets, although some of them showed considerable similarities.

In all three markets, the certification committee operated at the center of the market's PGS, although it was not the only organizational subunit involved. The participatory certification process slightly differed among the three cases. However, some similar basic steps to summarize this process, could be identified in all three markets:

- (1) Submission of application for certification and membership ("*solicitud*") by the respective operator;
- (2) Analysis of application and information provided;
- (3) Visit of production site(s) and/or processing unit(s);
- (4) Analysis of information gathered during visit, elaboration of final report and decision.

In general, food products sold at the markets had to be certified through the markets' PGS and the process had to be repeated for new products a vendor wanted to sell. Exceptions were made in certain cases and third-party certification was an option. Products certified by a third-party certifier usually were not controlled by the PGS. Instead, the valid certificate had to be handed in to prove organic status of the product. However, the exact procedures of the participatory certification process differed among the three markets. Differences could be identified with regard to the degree of detail the process was laid down with, the different steps it included, phases of decision-making throughout the process, the degree of documentation used and organizational units involved.

At the time of data collection, none of the three markets' certification committees had applied for accreditation before the national competent authority.

5.1.1. Case I: Organizational structures and functionality of the participatory certification process in Chapingo's organic market

Organizational market structures

In Chapingo (I), apart from the General Assembly, the Directive Board and the certification committee (*"comisión de certificación organica participativa"* or *"comité de certificación participativa"*), four other committees had been formed (Figure 8).

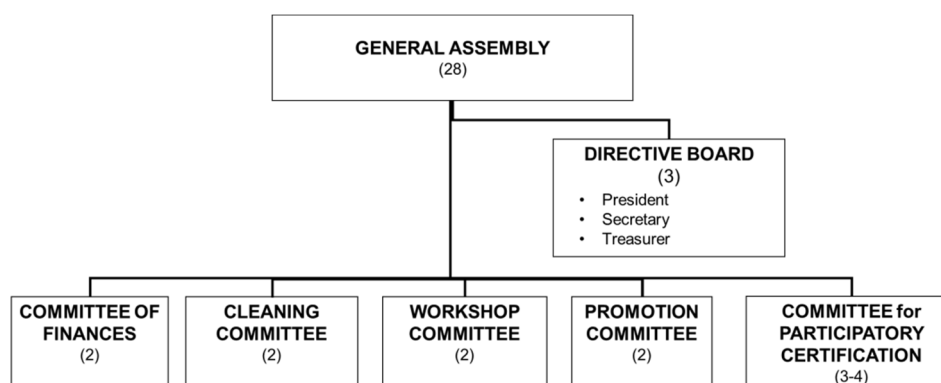


Figure 8: Organizational structures of Chapingo's organic market (I)¹⁸ (number in brackets = number of members for each committee; source: IR1, KI 1/I1)

All roles were held by market vendors and were usually elected once a year by the General Assembly (KI 1/I1). The Directive Board was in charge of the general management of the market and the representation of the market before external actors. Its members presided General Assembly meetings, organized them, prepared the agenda for and protocols of meetings (IR1). The committee of finances (*"comité de finanzas"*), with the treasurer (*"tesorero"*) as one of its members administered economic resources of the market (IR1, KI 1/I1), the cleaning committee (*"comité de limpieza"*) was responsible for everything with regard to cleaning at the marketplace. The workshop committee's (*"comité de talleres"*) responsibilities regarded the organization of scientific, cultural or artistic events at the market and the participation of market members in events outside the market (IR1). The promotion committee (*"comité de difusión"*) was in charge of disseminating and promoting the market and its philosophy.

The certification committee (Chapingo I) according to the market's internal regulation had to be formed by at least four members. According to the market coordinator, it had to be formed by 3 or 4 members (KI1/I1). At the time of data collection, the collective of market members was split into two groups due to ongoing conflicts (chapter 4.2.1) and each of the groups seemed to have its own certification committee, one formed by three members, the other one by four. Members of the committee usually were elected by the General Assembly (IR1, KI1/I1) for the period of 2 years with no re-election possible in order to give other market members the opportunity to participate and learn (IR1). Any market member who was a producer and had sufficient experience was free to participate in the certification committee. Besides, the regulation emphasized required skills and knowledge about the organic law and its guidelines in order to better fulfill respective duties (IR1).

¹⁸ The Promotion committee was defined in the market's internal regulation and not mentioned by a key informant when asked about the market's organizational structures (he only mentioned a cleaning committee, a workshop committee, a committee of finances and a certification committee) (KI 1/I1). The committee of finances was not defined in the internal regulation; the internal regulation defined that the certification committee would have a president, elected by the General Assembly; the market coordinator stated that the committee's members had equal roles.

Last election of these roles had taken place around May 2015. At the time of data collection, it was not totally clear if and how these subunits were still operating on a market level. It seemed that due to the prevailing situation (chapter 4.2.1) these organizational subunits were either not operating or operating twofold. General Assembly meetings usually had been held once a month to discuss and take all important decision regarding the market. In the General Assembly each stand had one vote (KI 1/I1)¹⁹. According to the market's president, General Assembly meetings were still held with the participation of the total collective of market members. However, own observations contradict this information (E 1-E 7).

During the first phase of data collection and until February 2016, vendors were the only actor group involved in the market's organization. The university did play a role in providing the building where the market was held free of charge. Besides, actors from the university had played a paramount role for and in the market in the past and market vendors participated in events at the university or actors from the university at times participated in market activities.

After the university resumed its collaboration in February 2016 (Chapingo II), a committee for cultural events ("*comité de eventos culturales*") was formed in addition to already existing committees. Besides, the market had two new representatives from the University of Chapingo and the University's rectorate reserved a right of veto regarding all decisions taken in the market (Figure 9). Committees' members were re-elected in March 2016. The idea was that each committee should be formed by one member of each of the two groups that had formed within the collective of market members.

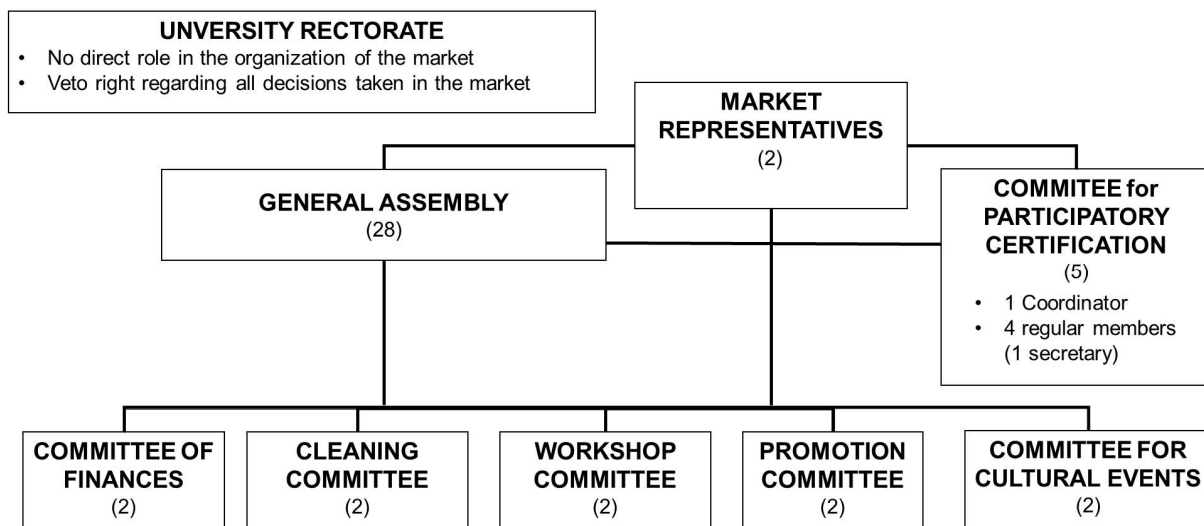


Figure 9: Organizational structures of Chapingo's organic market (II) (number in brackets = number of members for each committee; source: IR2, E 20)

Under the new regulation (Chapingo II), the certification committee had to be formed by at least five members. It would consist of two market members (vendors), elected by the collective of market members, one consumer, elected by the collective of consumers and one academic, professor or student from the university, invited by the coordinator and elected by the collective of market members and consumers in case there was more than one candidate. The committee's coordinator would have to be a person with a minimum of five years proven experience in organic production and certification and practical skills in organic farming. He or she would be elected by the university rectorate. Members of the committee would last two years in their position, with the possibility to extend this period for two more years, in order to ensure stability and continuity of the work (IR2, E20 KI14/I6). Election of the first committee according to this scheme took place at the time of finishing data collection. For the position of the coordinator, one of the new market representatives, a

¹⁹ Voting right had been changed only recently; before that, voting rights had not been clearly defined (KI 1/I1).

research professor from the University of Chapingo who had been a founding member of the market and a member of the market coordination and its PGS for years, was nominated by the University rectorate. Besides, one member of each of the two groups of market vendors was elected by the respective group. An agrarian engineer from the university and one consumer complemented the new committee (E19 & E20; KI33/I1; E20 KI15/I1, KI14/I6).

Functionality of the participatory certification process

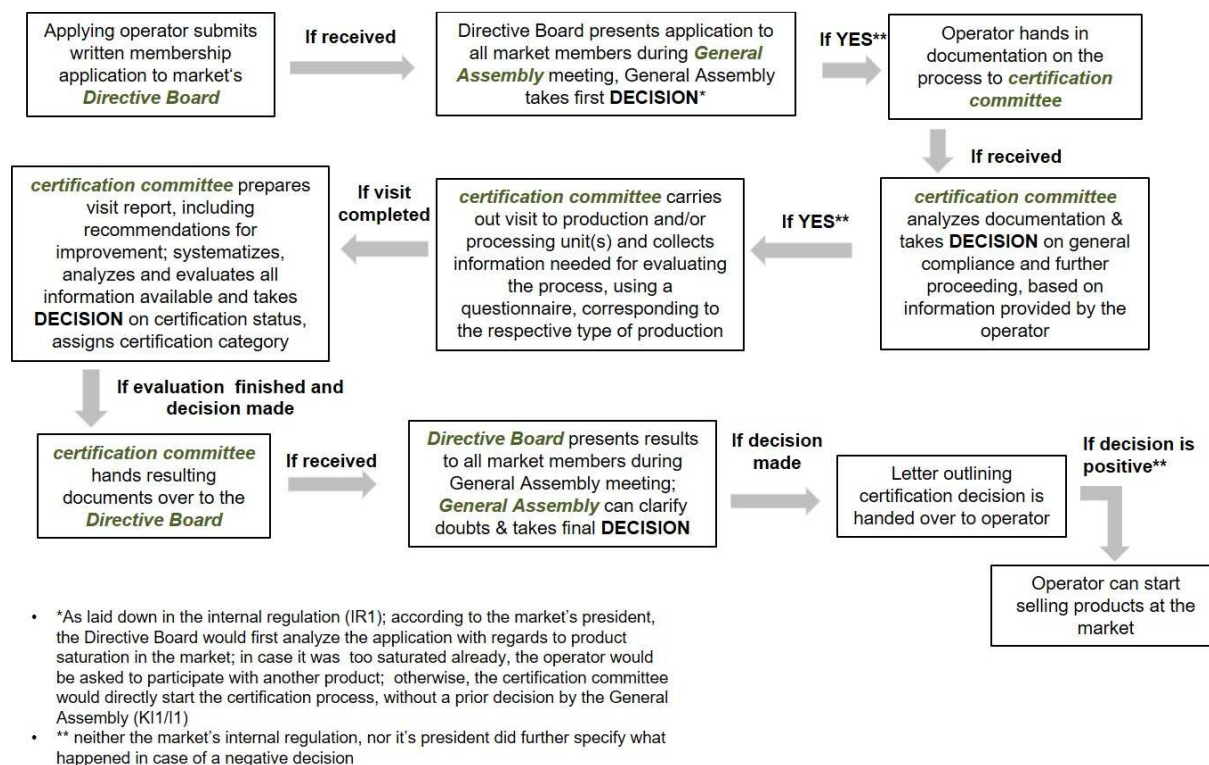


Figure 10: Functionality of the participatory certification process practiced in Chapingo's organic market (I) (source: KI 1/I1, IR1)

Under the regulation of Chapingo (I), visits were carried out by the certification committee. Other actors were free to participate (KI 1/I1). After the first certification, follow-up visits for monitoring were carried out every year and had a spontaneous character. The certification committee randomly chose an operator to be visited (KI 1/I1).

Due to the prevailing situation (chapter 4.2.1), the process was not practiced on a market level and it did not become totally clear to what extent committees were still carrying out visits on a group level. According to one key informant from the University of Chapingo, no visits were carried out at the time data collection was started (KI 14/I1). However, according to two market vendors, one part of the market collective was continuing the process (KI 18/I1, KI 9/I1).

With the regulation for the market's PGS issued in February 2016 (Chapingo II), the process for the first time was clearly defined in writing (Figure 11).

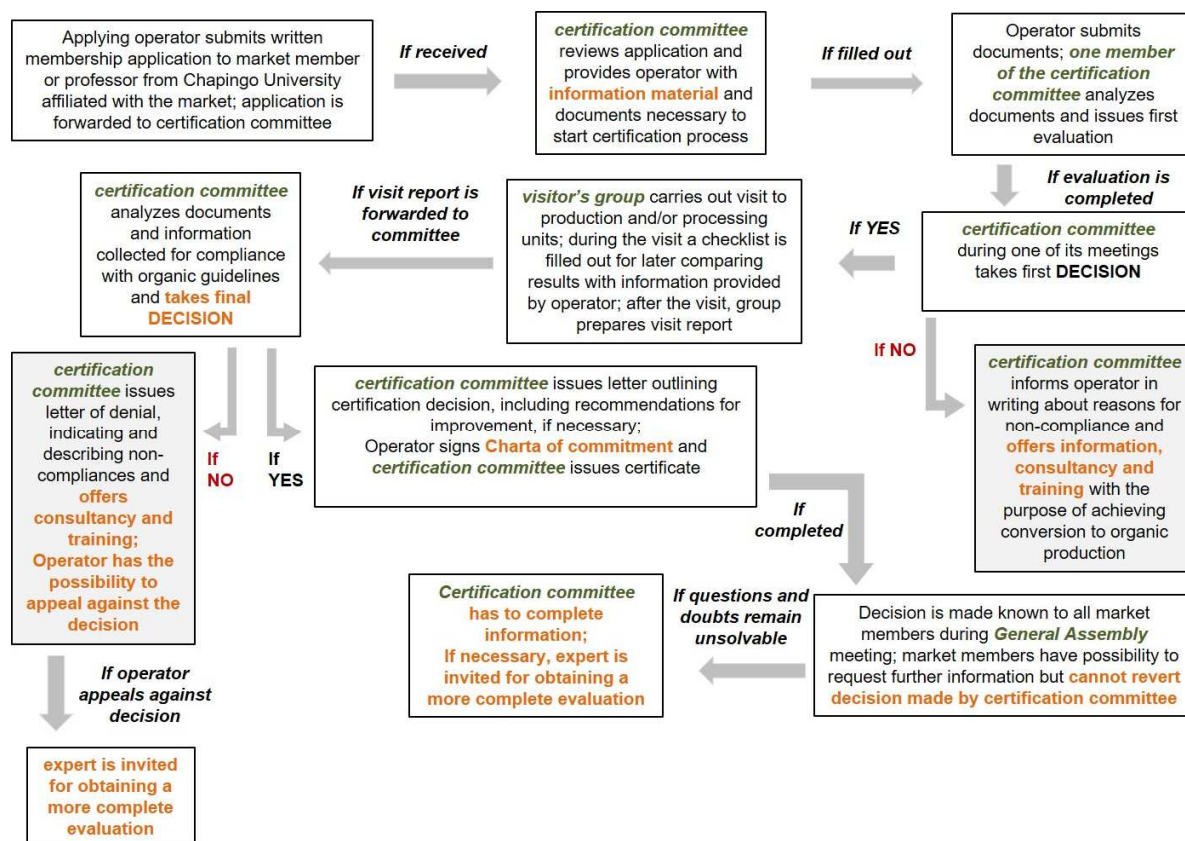


Figure 11: Functionality of the participatory certification process practiced in Chapingo's organic market (II) (most important differences to participatory certification process under Chapingo I are highlighted in orange; source: IR2)

Under the new regulation for the market's PGS (Chapingo II) the visitor's group had to be composed of at least two members. One of them had to be a member of the certification committee, the other one could be a member of the latter or any other market member or volunteer. Members of the visitor's group were nominated by the certification committee. Visits generally would be open for everyone to participate (E 19 KI 13/I5).

The fact that the General Assembly would not be able to change the certification committee's decision depicted a fundamental change in decision-making authority compared to the process laid down in the old market regulation (Chapingo I). The decision-making authority of the General Assembly in the participatory certification process was discussed critically, also in the context of existing conflicts between market members (E 19). Concerns were raised by actors from the university with regard to complicating the process by discussing results and deciding on them in the General Assembly and emphasis was made on the importance of clearly assigning the responsibility for decision-making in the participatory certification process (KI 15, E 19).

Monitoring under the new regulation (II) would be carried out by means of regular visits in order to verify how operators were complying with the recommendations issued and which progress they had achieved. In addition to regular visits as part of the participatory certification process, the regulation stipulated the option of making additional unannounced visits. In the case a market member would want to start selling a new product, additional certification would be needed in case this implied a new way of production. Operators who applied for selling products certified by a 3rd party certification body had to prove validity of the products' certificate and submit a copy of the valid certificate every year (at least two months after a certificate's expiration). The certification committee would check relevant

information on the Internet or with the respective certification body (E 19). Vendors of non-food products would have to prove compliance with other standards.

At the time of finishing data collection, certification of market members and new applicants under this scheme was expected to start around April/May 2016.

5.1.2. Case II: Organizational structures and functionality of the participatory certification process in Tlaxcala's alternative market

Organizational market structures

Organizational market structures in Tlaxcala consisted of the General Assembly, the market coordination, the certification committee and four additional committees (Figure 12).

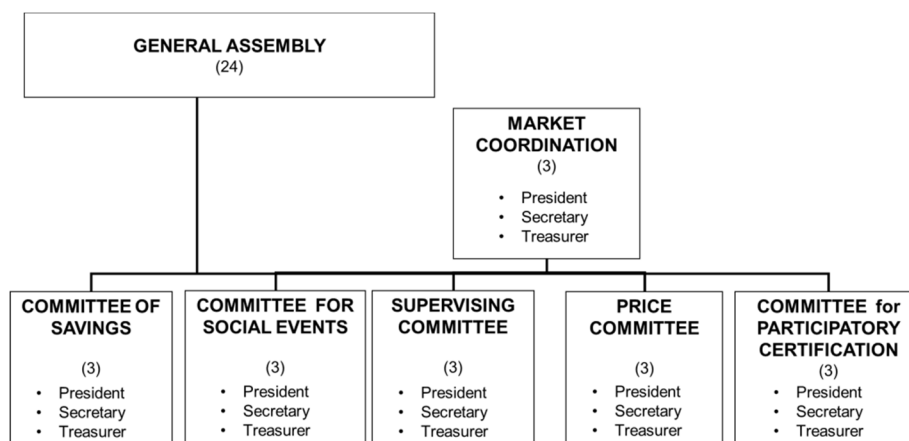


Figure 12: Organizational structures of Tlaxcala's alternative market²⁰ (number in brackets = number of members for each committee; source: KI 2/I1, KI 3/I1, IR3)

All positions were held by market vendors and elected by the General Assembly once a year, except for the certification committee (*“comisión de certificación”*), which was elected once every two years (KI 2/I1, KI 3/I1). In contrast to Chapingo, committees' members had the assigned roles of a president, a secretary and a treasurer (KI 3/I1). The market coordination's responsibility was the general organization and management of the market, including the organization of General Assembly meetings, the coordination of committees' activities and the organization of workshops and courses and coordination of the latter with external organizations and colleagues (KI 2/I1). The treasurer, member of the market coordination, and the committee of savings (*“comisión de ahorro”*) were assigned with collecting weekly and monthly fees (KI 2/I1) (chapter 4.2.2). The supervising committee (*“comisión de vigilancia”*) was in charge of controlling vendors' compliance with certain norms on the market day (e.g. if vendors were wearing their uniform and exhibiting a price list). The committee for social events (*“comisión de eventos sociales”*) was responsible for organizing different events at the market and the participation of market members in events outside the market (e.g. participation in fairs and expos) (KI 2/I1). The price committee (*“comisión de precios del mercado”*) according to the market regulation would negotiate with vendors in order to achieve an acceptable price, if similar products were sold at very different prices (IR3). All decisions were made in the General Assembly, where every stand had one vote (KI 2/I1). General Assembly meetings were held every other week.

The certification committee ought to be formed by at least four members, by market vendors, one consumer and one researcher. However, at the time of data collection this still had not been put into practice on a regular basis and the committee was formed by three market vendors (KI3/I1). The certification committee's president was responsible for planning

²⁰ Organizational structures as explained by one key informant (KI 2/I1). According to what was documented in the market regulation, the market had a committee of order, a cleaning committee and a committee of price control (IR3).

meetings of the committee and organizing peer review visits. The secretary was in charge of taking notes and protocols during these visits, the treasurer for allocating fees paid by vendors and applying operators for covering expenses arising from visits (KI3/I1).

At the time of data collection market vendors were the only actor group engaged in the organization of the market and the PGS. The town council did play a role for the market in owning the square where the market was held. Furthermore, civil society organizations, of which some vendors were a member, collaborated with market members for organizing trainings and workshops. Besides, other actors may have played a role, for example in organizing events outside the market in which market vendors participated. However, they were not engaged in the market organization and had no decision-making authority.

Functionality of the participatory certification process

In Tlaxcala the participatory certification process was mainly carried out by the certification committee and was pretty similar to the process practiced in Chapingo (Figure 13).

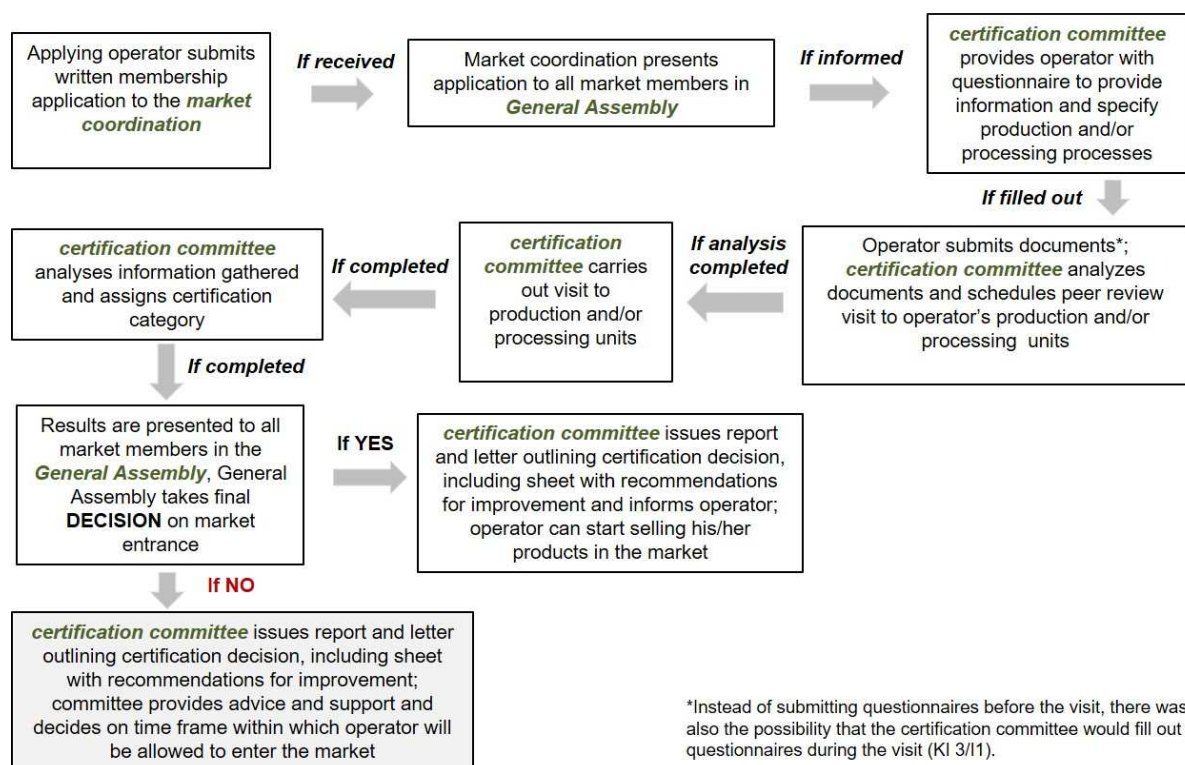


Figure 13: Functionality of the participatory certification process practiced in Tlaxcala's alternative market (source: KI 2/I1, KI 3/I1)

Visits were carried out by the certification committee (KI 2/I1). If one of its members had to be visited, other market members conducted the visit instead (KI 3/I2, KI 10/I2). Visits were unannounced if operators who were already participating in the market were visited and announced and scheduled if new applicants were visited (KI 3/I1). Consumers were invited to participate (KI 2/I1). If they did so, visits were also scheduled, for organizational reasons (KI 3/I1). Follow-up visits and renovation of the certificate after a first certification was carried out every two years (KI 3/I1). The process also applied for operators who were selling ornamental plants at the market. Other operators who were selling non-food products were interviewed by the certification committee (instead of carrying out a visit) and similarly had to hand in documentation on elaboration processes of the respective product and indicate the origin of raw materials. The certification committee then made their decision based on this documentation (KI 2/I2).

5.1.3. Case III: Organizational structures and functionality of the participatory certification process in Oaxaca's alternative market "*El Pochote Xochimilco*"

Organizational market structures

The market in Oaxaca had only one additional committee apart from the General Assembly, the Directive Board and the certification committee (Figure 14). At the time of data collection, market vendors held all roles. The Directive Board was elected by the General Assembly once a year. The remaining positions were suggested by the Directive Board and approved by the General Assembly (KI 5/11).

The market's Directive Board was in charge of the general organization of the market (KI 5/11), the treasurer of administering the financial resources of the market (IR4). All decisions were made in the General Assembly. General Assembly meetings ought to be held every three months. However, no meetings had been held during the nine months prior to data collection and important information was passed on informally to all market members (KI 5/11).

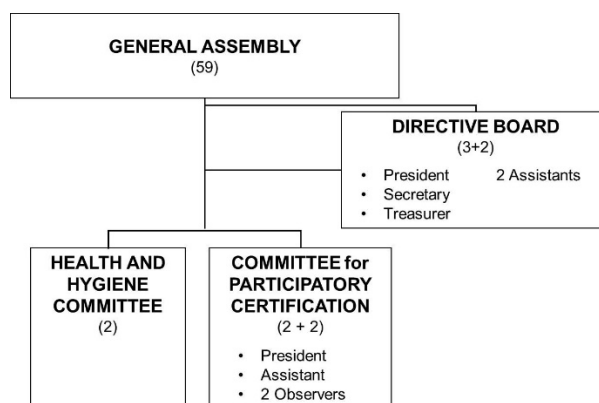


Figure 14: Organizational structures of Oaxaca's market "*El Pochote Xochimilco*" (number in brackets = number of members for each committee; source: IR4, KI 5/11)

The certification committee, as defined in the market's internal regulation had to be formed by at least five members. These members would be elected for the period of two years, with the possibility of being re-elected (IR4). However, according to the market's president, who at the time of data collection was also participating as assistant in the certification committee, the certification committee was formed by only two regular members. These members were market vendors. They were supported by two additional market vendors who participated as observers on a rotating basis. The two regular members had the assigned roles of a president and an assistant. Any market member was free to participate as observer. The committee was nominated by the Directive Board and approved by the General Assembly²¹. In the case of doubts, members of the certification committee had the possibility to seek consultancy from an engineer who had collaborated with the market in the past and set up the market's PGS. However, he was not participating in the organization of the PGS or in the participatory certification process (KI 5/11).

The square where the market was held during the time of data collection was owned by the perish and provided free of charge. However, the perish was not involved in the organization of the market. Based on the data available for analysis, no other actors than market members were engaged in the organization of the market and its PGS at the time of data collection.

²¹ according to the market's internal regulation the committee was directly elected by the General Assembly (IR4).

Functionality of the participatory certification process

The participatory certification process as such, was carried out by the certification committee (Figure 15).

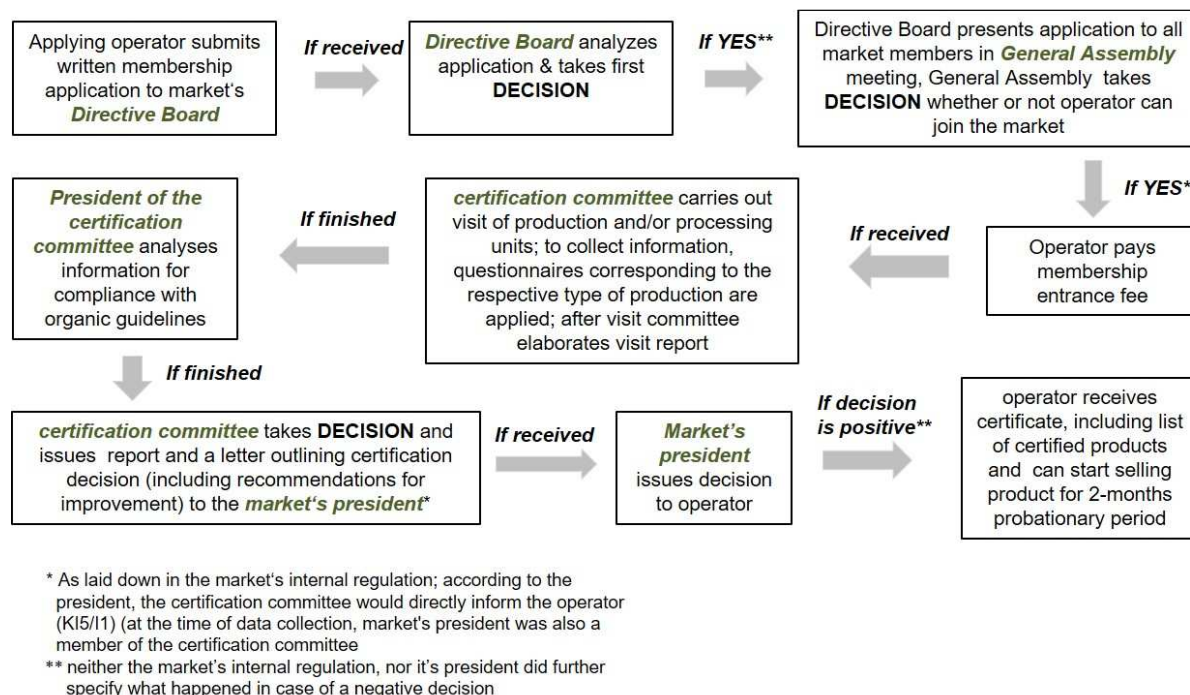


Figure 15: Functionality of the participatory certification process practiced in Oaxaca's alternative market "El Pochote Xochimilco" (source: IR4, KI 5/I1)

Peer review visits were organized by the certification committee's two permanent members. During visits, they were accompanied by the two market vendors who were participating as observers. Consumers were not invited to participate in visits. Visits were carried out continuously and each operator was visited once year (KI 5/I1, IR4). If market members were visited, visits were unannounced. If new applicants were visited, visits were scheduled. Operators who were selling non-food products had to fill out a questionnaire about the production and/or elaboration processes of the respective product and verification of compliance with standards applied within the market was made based on this information (KI 5/I1).

5.2. Case study markets' PGS analyzed based on selected elements and features of the IFOAM PGS framework

5.2.1. Values, principles, objectives and the vision of markets and their PGS

In Chapingo and Tlaxcala, a vision and main objectives of the market had been defined in writing and were documented, either in the internal market regulation (Chapingo I and Tlaxcala), or in the regulation for the market's PGS (Chapingo II) (Table 17).

Table 17: Vision and objectives of the market and the PGS, documented in internal market regulations or the regulation for the market's PGS in Chapingo and Tlaxcala (source: IR1, IR2, IR3)

Vision and Objectives of the market and its PGS		
Chapingo I	Chapingo II	Tlaxcala
<ul style="list-style-type: none"> • Promote organic agriculture by means of production, processing, commercialization & consumption of sound & nutritive food products • Contribute to sustainable development • Create environmental awareness through lectures and workshops • Provide sound products of high quality and contribute to consumers' health • Good treatment of consumers • Provide alternative market for small- and medium scale producers to consolidate domestic, local and regional market for organic products • Contribute to community development through scientific, academic and cultural activities • Dissemination of culture 	<ul style="list-style-type: none"> • Foster local production and consumption • Foster nutrition based on products that are healthy and produced locally • Offer organic products that are produced in compliance with the production standards defined by the National Organic Law • Be a space for co-existence and encounter • Foster research and culture • Provide a source of income and employment 	<ul style="list-style-type: none"> • Promote responsible consumption amongst citizens of Tlaxcala • Promote agroecology and agro-ecological production in its social, economic, environmental and cultural dimension • Contribute to the preservation of traditional market culture • Foster environmental education

In Oaxaca, the market regulation did only define the sale of organic products as a main distinguishing characteristic of the market. With regard to the vision, objectives, values and principles of the market and its PGS, nothing was defined in the regulation (IR3). According to the market's president, the market's vision was to contribute to the preservation of culture and traditions, for that traditional dishes, cooking techniques as well as corn varieties and varieties of other species important in Mexican cuisine won't get lost. He also stated that

"It is not very clear, because nothing written exists. In other words, we all know it, and... But a written document that states 'mission: artisanal', no, this does not exist. 'Vision: ...', neither. Objectives, neither. This is part of what I am ought to do. But well, I am working on it, one year is not enough (KI 5/I2)."

Another objective of the market was to promote organic and local production as well as healthy nutrition and to raise consumers' awareness for the importance of good and healthy nutrition (KI 5/I2).

In Chapingo (I) and Tlaxcala, key documents did also define basic values and principles of the market and its PGS. Chapingo's (II) new regulation for the PGS did define core principles of the PGS, referring to the national guidelines for organic production and the therein defined principles of participatory organic certification (chapter 2.3.4) (Table 18).

Table 18: Values and core principles of the market and the PGS, documented in internal market regulations or the regulation for the market's PGS in Chapingo and Tlaxcala (source: IR1, IR2, IR3; blank cells = topic not documented in key documents)

	Chapingo I	Chapingo II	Tlaxcala
Values guiding market and PGS	<ul style="list-style-type: none"> • Respect among market members • Solidarity among market members • Punctuality • Tolerance for each other • Equality/Equity among market members • Humility • Honesty • Tenacity needed in order to reach objectives • Respect for nature 		<ul style="list-style-type: none"> • Solidarity among market members • Integration and participation of market members' families • Commitment: commitment with common agreements • Loyalty: loyalty with norms and agreements of the group • Participation: participation of market members in defined committees • Creativity regarding production techniques • Tolerance • Trust: trust among members and between members and consumers • Organization: organization as tool for putting defined values into practice
Principles guiding market and PGS	<ul style="list-style-type: none"> • Foster production and consumption of organic & nutritive products • Appreciation of traditional knowledge • Support development of rural communities • Self-governance of producers • Promote agricultural practices that contribute to conservation of natural resources and ecosystems • Promotion of environmental education • Support of organic movement and other alternative movements such as agroecology, alternative and natural agriculture • Collaborate with producers for identifying alternative markets in order to add value to organic products and improve household economies • Foster training to improve production and productivity • Promotion of cultural, scientific and artistic development of urban and rural communities to raise awareness about social, economic and cultural problems in the country 	<ul style="list-style-type: none"> • Organic production • Local production and consumption • Transparency • Decentralization • Horizontality • Participation of all actors engaged from production to consumption • Trust as basis and objective of the PGS • Learning based on constant experience exchange • Food sovereignty • Local adaptability • Simplification regarding paperwork • Peer review as basis of PGS 	<ul style="list-style-type: none"> • Cooperation • Responsible consumption • Collaboration and Solidarity

5.2.2. Standards applied for products sold at the market

Regarding production standards for food products sold at the market, the internal regulation in all three markets made reference to the national guidelines for organic production²² and to the verification of compliance with these guidelines for products sold at the market by means of the PGS (IR1, IR2, IR3, and IR4).

In the case of Tlaxcala, it is important to mention that, although the regulation and key informants referred to the national guidelines for organic production as a baseline to measure production processes, the terminology used within the market for distinguishing products which were fully complying with controlled standards was “*agro-ecological*” and not “*organic*”.

²² The “Guidelines for the organic operation of the agricultural and livestock activities”, published by the Secretariat of Agriculture, Livestock, Rural Development, Fisheries and Food (SAGARPA) on October 29th 2013; only the regulation in Chapingo (II) referred to it using the specific denomination.

When asked for underlying reasons and for how the difference between “*organic*” and “*agro-ecological*” was perceived by market members, the market's coordinator explained it as follows:

“The concept of organic was good for us, it is very good. But do you know what happened? They misused it. Especially large companies are taking it over. And it became something for the elites, something for wealthier people. This is why we decided to change it, the concept of organic for the concept of agroecology. And agroecology encompasses much more than the concept of organic. And it is accessible for everyone [...]. Agroecology is about the whole production unit. Because it involves soil and water conservation, [it involves] the way natural fertilizer is used, the way you manage biodiversity around your parcels. Agroecology has to do with the environment, with health, with everything. And the concept of organic does not include all these aspects we manage (KI 2/I2)ⁱⁱ.”

In addition to standards applied for food products, market members in all three markets had defined standards for non-food products sold at the market, such as crafts or jewelry. In Oaxaca, these standards were partly documented in the market's regulation. In Chapingo (II) the regulation referred to already existing standards applied for the respective product type (Table 19).

Table 19: Standards applied for non-food products sold at the market in Chapingo, Tlaxcala and Oaxaca (source: KI 1/I1, KI 2/I1,I2; KI 5/I2,I3; KI 14/I7; IR1, IR2, IR3, IR4)

CHAPINGO		TLAXCALA	OAXACA
I	II		
<ul style="list-style-type: none"> • <u>Jewelry</u>: has to be elaborated by vendor who sells product at the market 	<ul style="list-style-type: none"> • <u>textiles</u>: have to comply with global organic textile standard & norms of certifier <i>Naturland</i> • <u>cosmetics</u>: have to comply with norms of certifier <i>Naturland</i> • <u>crafts & baskets</u>: raw materials have to be of natural origin; in case of wild raw material, authorization by national competent authority needed • <u>nutritional supplements</u>: have to comply with national regulations for this type of product • <u>biodegradable products</u>: have to be recognized by the national competent authority 	<ul style="list-style-type: none"> • <u>plants</u>: have to be produced on vendors' production units, only application of natural fertilizer allowed • <u>other products (e.g. crafts)</u>: raw material used has to be natural, products have to be elaborated by vendor selling them 	<ul style="list-style-type: none"> • <u>crafts</u>: vendor selling them has to be a small-scale artisan or member of an organized collective of artisans producing the product; products preferably have to be from the region; products have to meet some criteria of ecological or social sustainability (e.g. use of natural colors for dying woven scarfs, use of certified wood for elaborating crafts); product should be new/innovative and contribute to the preservation of culture; ingredients/raw materials should be produced by vendor or purchased from another market vendor

In the case of Chapingo (I), one key informant, a former representative of the market and one of the new representatives (Chapingo II) stressed that vendors selling non-food products initially had been invited to join the market in order to increase the variety of products sold at the market (KI 14/I7).

In Oaxaca, not all vendors of the market had to comply with production standards. According to the market's president, exceptions had been made for some vendors. He referred to these exceptions as the “*social dimension*” of the market. Some vendors who already had been selling their products at the square the market was held when the market had been inaugurated, and who at the time had been facing problems with the police on some occasions, had been invited to join the market, in order to “*protect them from the police*”. Another exception had been made for a stand where bags produced by female prisoners were sold (KI 5/I2,I3).

In Chapingo (I), Tlaxcala and Oaxaca the market regulation additionally defined general norms market vendors had to comply with at the marketplace, such as wearing nets, wearing a “uniform” or exhibiting product prices (IR1, IR2, IR3, IR4). In Oaxaca, vendors who sold

food products additionally had to do courses on handling of food, which were offered by the Secretariat of Health. These courses had to be done once a year and completion had to be proven through a certificate (KI 5/I3). In Chapingo (I) and Tlaxcala, regulations also laid down that market members were obliged to participate in educational activities and activities for capacity building (I1, I2, I3, I4).

5.2.3. Mechanisms to verify compliance with defined standards and consequences for non-compliance

Several methods and tools to verify producers and processors compliance with defined standards were used throughout the participatory certification process (chapter 5.1) (Table 20).

Table 20: Mechanisms to verify compliance with standards used throughout the participatory certification process in Chapingo, Tlaxcala and Oaxaca (✓ = applied, ✗ = not applied; - = not explicitly mentioned if applied or not applied; source: IR1, IR2, KI 2/I1, KI 3/I1, KI 5/I1)

MECHANISM	CHAPINGO		TLAXCALA	OAXACA
	I	II		
Description of the production and processing process to be handed in by an applying producer or processor as part of the written membership application; this description is used as basis for a pre-assessment before carrying out the peer review visit; producer/processor has to explain his or her intention to join the market	-	✓	✓	✓
Possibility to clarify doubts before handing in documentation on the production and processing process and starting the participatory certification process	-	✓	-	-
Copy of organic production standards to comply with and the PGS standards (manual about the participatory certification process) handed over to applying producer/processor before starting the participatory certification process	-	✓	-	-
Questionnaire(s) filled out by producer/processor to provide information about processes applied and inputs used, before peer review visit is carried out	✓	✓	✓	-
Farm management plan handed in by producer before peer review visit is carried out	-	✓	-	-
Map of production and processing unit, handed in by producer/processor before peer review visit is carried out	✓	✓	-	-
Records of the farm, handed in by producer before peer review visit is carried out	-	✓	-	-
(Peer review) visit of production and processing unit	✓	✓	✓	✓
Checklist, questionnaire or protocol used during visit to collect information and/or validate information provided by producer/processor before the visit	✓	✓	✓	✓
Laboratory analysis in case of suspicion (e.g.: in case agrochemicals are applied on neighboring production units without buffering areas)	-	✓	-	-
Controls at the marketplace to make sure that only certified products are sold	✗	-	✓	✗
Charta of Commitment signed by producer/processor when joining the market	-	✓	-	-
Knowledge building and experience exchange during peer review visits	-	✓	✓	-

The core of the participatory certification process in all three markets was regular peer review visits to production and processing units. During these visits, a questionnaire, protocol or checklist was used to collect information on certain control points. In Chapingo (I & II) and Oaxaca visits were ought to be carried out every year, in Tlaxcala the regularity had been recently changed to every two years. In the case non-compliance with production standards was detected, all three markets had defined some consequences. Clear documentation of

consequences was very poor and consequences for the sale of not certified products were only clearly defined in Tlaxcala (Table 21).

Table 21: Consequences for non-compliance with production standards, consequences for selling products not certified through the PGS at the marketplace and organizational unit responsible for making decisions on consequences in Chapingo, Tlaxcala and Oaxaca (✓=documented in market or PGS regulation, ✕ = not documented in market or PGS regulation, - = not explicitly mentioned; source: IR1, IR2, IR3, IR4, KI 1/I1, KI 3/I1, KI 5/I1, KI 16/I2)

MARKET	CHAPINGO		TLAXCALA	OAXACA
	I	II		
TYPE OF INFRINGEMENT				
Non-compliance with production standards	if only one product is concerned, sale of the product is suspended If the whole production system is concerned, producer/processor is suspended if a producer/processor is suspended, he/she may return to the market as soon as compliance with production standards has been achieved	a period of 90 days is granted to the producer/processor for achieving compliance with standards; after expiration of this deadline he/she is temporarily suspended from the market a further time frame of 90 to 180 days can be granted for achieving compliance and returning to the market sale of 3 rd party certified product is suspended if renewal of the certificate is not proven within 2 months after the certificate expires	non-compliance with defined standards does not have any consequences as such if a producer/processor really refuses to comply with standards he/she is expelled from the market	in the case of minor infringements, a written warning is handed over to the producer/processor; after receiving the 3 rd warning without reaction, producer/processor is expelled from the market
<i>Documented in internal regulation for market or PGS</i>	✕ ²³	✓	✕	✕
Sale of products which are not certified through the PGS or certified by a 3rd party certifier and registered for sale	can cause the loss of market membership and expulsion from the market	-	sale of the product is suspended immediately & vendor has to pay a fine after the 3 rd time the vendor is suspended from the market	-
<i>Documented in internal regulation for market or PGS</i>	✓	✕	✕	✕
Organizational unit responsible for making decision on consequences and specifying them in specific case	General Assembly	certification committee	certification committee suggests consequences and discusses them with the General Assembly	Directive Board
<i>Documented in internal regulation for market or PGS</i>	✕	✓	✕	✕

In Chapingo (I), consequences for non-compliance with production standards were not defined in writing and only the sale of products which were not certified or registered was documented as severe non-compliance which could result in the expulsion from the market. It was not clearly defined when exactly this would be the case. Besides, according to some

²³ According to a key informant, consequences for non-compliance with production standards had been laid down in writing; however, it was not documented in the market's internal regulation (IR1) analyzed for this thesis.

key informants it did happen a lot that market vendors brought products for sale which were not certified or registered. Key informants also stated that a clear definition of consequences for non-compliance was missing and that those consequences market members had agreed upon were often ignored, so they had a rather theoretical character (KI11/I1, KI9/I1, KI12, KI13/I1, KI14/I2, KI14/I4). According to one of the new market representatives in Chapingo (II), since the market's inauguration there had always been the agreement to not expel anyone from the market and it was neither planned for the future to do so (KI 14/I2).

In Tlaxcala, no consequences as such had been defined for non-compliance with production standards. As stressed by one key informant, the typical proceeding in case non-compliance was detected was the following:

*"[...] ah well, before we [the certification committee] take a decision, we come and tell everybody 'you know, with our colleague [...] for example, we saw this and that, we think that this is not ok, for selling products at the market we still need to give him some time for that he improves and gets ready', and then it is ok. Consequences as such, no. The point is that, what we are doing is, avoid conflicts. Problems of conflicts between colleagues, that's how it is called. Hence, what we do is, always be very careful and very clear on that, if you can do it now, great! But that's because he already has his process implemented, right? He already has made progress regarding knowledge and how he is managing his production. And of how he is implementing things. The other side is, if he really doesn't want to adopt the standards, then we do say, 'ok, then you can't be part of the market because you do not want to comply' (KI 3/I1)."*ⁱⁱⁱ

In Oaxaca, the market regulation only referred to non-compliance with the market regulation in general and did not define consequences for non-compliance with production standards. However, according to the market's president, market members knew about defined sanctions, as they had been told about them informally. Besides, the Directive Board in office at the time of data collection was the first one to start implementing sanctions because of problems with colleagues applying sanctions would have. He also referred to problems the implementation of sanctions would cause for him after renouncing from his position and becoming a "regular" market member, because then, "they would go after [him] (K I5/I1)"^{iv}.

5.2.4. Documented management systems and procedures: Key documents and mechanisms of documentation used throughout the participatory certification process

All three markets had a regulation, a written document for regulating and laying down the market's principles, organization, operation, and to some extent certification. The regulation in Tlaxcala and Oaxaca were general market regulations which defined general rules for the marketplace. While in Oaxaca the regulation made some basic references to organic production and certification of products, including basic steps to join the market, in Tlaxcala nothing was documented regarding production and certification. However, according to two key informants, the market did have a regulation which explicitly documented aspects regarding the participatory certification process. Although requesting it various times, it was not possible to access it and thus include it in analysis for this thesis.

The market in Oaxaca did not have a regulation for its PGS and references made in the general market regulation were rather sparse. A manual for the participatory certification process was in the process of development. According to the market's president, he was ought to develop it but progressing it was sometimes difficult due to time constraints (KI 5/I1).

The market regulation in Chapingo (I) also put a bigger focus on the general market organization. Although one part of the internal regulation (I), published in May 2015²⁴ did include basic elements regarding the participatory certification process, until the new regulation, the process had not been explicitly defined in writing. One market vendor stressed that theoretically there was an internal regulation on participatory certification but that it was not a written document, explaining that market members knew how the process worked because everyone had experienced the process, but that there was no written document which defined the proceeding (KI 13/I1).

With the new regulation for the PGS in Chapingo (II), the participatory certification process for the first time was explicitly defined in writing. It was orientated on the national guidelines for organic production and standards for PGS defined in these guidelines²⁵.

Apart from written regulations, all three markets used basic mechanisms of documentation throughout the participatory certification process. The degree of documentation regarding the degree of detail and the number of documents used differed (Table 22).

The market in Oaxaca showed the lowest degree of documentation, while under the new regulation in Chapingo (II) the degree of documentation by far would be the highest.

The new regulation in Chapingo (II) put explicit emphasis on documents like farm records and a farm management plan. This was also caused by the fact that the national guidelines for organic production demand these documents for all operators certified through the PGS in order to achieve official accreditation before the national competent authority (chapter 2.3.4).

However, complete documentation was considered one of the major challenges for Mexican PGS initiatives by key informants in Chapingo, and as one major obstacle for achieving official accreditation of the PGS (E 9, KI 14).

In all three markets a questionnaire, protocol or checklist was used during the visit to gather information. Besides, a visit report was prepared after the visit, followed by a letter outlining the certification decision (*dictamen*). Recommendations for improvement were issued either

24 According to information given by several key informants, the document had mainly been developed by one part of the market collective and submitted to vote in the General Assembly without giving the rest of the market collective the possibility to make further suggestions. There was evidence that this proceeding contributed to the enforcement of already existing conflicts and to the regulation never really being totally implemented for the entire market.

25 This was also done in order to apply for accreditation before the national competent authority (SENASICA / SAGARPA) in the future; this regulation (Chapingo II) was also the only regulation explicitly referring to the functionality of PGS as endorsed in the national guidelines for organic production.

as part of the visit report or the letter outlining the certification decision. Besides, a general archive which included documents of all market vendors, such as their membership applications, applications for new products or reports of the visits were kept by one organizational unit of the market.

Questionnaires to be filled out by operators before the visit in order to specify production and processing processes were only mentioned in Chapingo (I & II) and in Tlaxcala.

In Oaxaca, according to one key informant, members of the certification committee filled out the questionnaire during the visit (KI 5/I1).

Table 22: Mechanisms of documentation used throughout the participatory certification process and for record keeping within markets' PGS in Chapingo, Tlaxcala and Oaxaca (✓=used according to key informants or internal regulations, blank = not mentioned by key informants or internal regulations; source: IR1, IR2, IR3, IR4, KI 1/I1, KI 2/I2, KI 3/I1, KI 5/I1, KI 38/I1, KI 39/I1)

DOCUMENT	CHAPINGO		TLAXCALA	OAXACA
	I	II		
Written membership application, including personal data and a general description of product to be sold at the market	✓	✓	✓	✓
Written application for new product(s) to be included for sale at the market	✓		✓	
Questionnaires on production and/or processing; to be filled out by producer or processor before visit	✓	✓	✓	
Questionnaire to be filled out by vendors selling non-food products or description of raw materials used and the process applied; to be handed in by vendors of non-food products	✓		✓	✓
Farm management plan (short-term, 1 year and medium-term, 3 years); to be handed in before visit		✓		
Map of the production unit, indicating neighboring production units, including information on how these neighboring units are managed; to be handed in by producer	✓	✓		✓
Records of production activities carried out in the year prior to certification		✓		
Written document indicating non-compliance and recommendations for improvement, in case of a negative decision after the first review of the documentation handed in by the producer /processor		✓		
Questionnaires, checklist and/or protocol used during visit to collect information	✓	✓	✓	✓
Photos and/or videos made during visit		✓		✓
In the case of an operator in conversion. documentation on the production for last 3 years prior to visit		✓		
Visit report prepared after visit	✓	✓	✓	✓
Letter outlining final certification decision	✓	✓	✓	✓
Recommendations for improvement, either as part of the visit report or of the letter outlining the certification decision	✓	✓	✓	✓
Charta of commitment signed by operators when joining the market		✓		
General archive including all documents of producers kept by one organizational unit / responsible person assigned for all operators	✓	✓	✓	✓
List of stands, including number of people "registered" for attending the stand and products registered for sale, used together with a specific format to control the following criteria at the marketplace: products sold, exhibition of certificates and price lists at the stand, if vendor is dressed in uniform, if vendor has paid fees, hour of arrival;			✓	

In Chapingo (II), the new regulation also explicitly defined mechanisms of documentation to be used by the certification committee, such as protocols of meetings, the use of calendars and agendas (IR2).

5.2.5. Mechanisms used at the marketplace to give evidence on the status of certification of products certified through the PGS

In all three markets different certification categories were distinguished, depending on an operator's degree of compliance with applied production standards. Non-food products and crafts were assigned with an own category. In none of the markets seals or product labels were used. However, according to the national guidelines for organic production, the certification committee of a PGS has to be accredited before the national competent authority in order to be officially allowed to issue a label or seal (E 19 KI 14/I5) and none of the three markets had achieved accreditation by the time of data collection.

In Oaxaca, no mechanism was used at the marketplace to give evidence on a products' certification category. In Chapingo and Tlaxcala, a color system was used. Chapingo's (I) market regulation referred to this system as "*traffic light for identifying the production process (IR1)*". In Tlaxcala it was called "*Agro-ecological traffic light (KI 3/I1)*" (Table 23).

Table 23: Certification categories distinguished and mechanisms used to provide evidence on the status of certification of products certified through the PGS at the marketplace in Chapingo, Tlaxcala and Oaxaca (source: KI 1/I1, KI 2/I1, KI 3/I1, KI 5/I1, I3; E 1-E 7; E 10-E 12; E 13-E 16; E 19)

Market	CHAPINGO		TLAXCALA	OAXACA
	I	II		
Different certification categories distinguished	<ul style="list-style-type: none"> Organic products Products in conversion to organic production or "natural" products Crafts or artisanal products 	<ul style="list-style-type: none"> Certified operator (corresponding to the category "organic" in the prior system Chapingo I) Operator with minor non-compliances (corresponding to the category "in conversion" in the prior system Chapingo I) 	<ul style="list-style-type: none"> Agro-ecological products Products in conversion to agro-ecological production: already advanced in the conversion process but not fully compliant Products in conversion to agro-ecological production: conversion process already started but still at the beginning Beginning or natural: at the point of starting the conversion process or "natural" products (e.g. from wild collection) 	<ul style="list-style-type: none"> Organic products Products "<i>in the process</i>", in conversion to organic production Crafts or artisanal products
Mechanism for distinguishing different certification categories at the marketplace	<p>Differently colored tablecloths used to cover market stands; color depending on the corresponding certification category; Color system:</p> <ul style="list-style-type: none"> Organic = green (Figure 16) In conversion / natural = orange (Figure 17) Craft or artisanal products = white (Figure 18) 	<p>Differently colored tablecloths were still used when data collection was finished;</p> <p>Plan for the future: develop a certificate for the marketplace with logos of the university and the market; publish validity dates of certification on a wall painting in the market</p>	<p>A short version of the letter outlining the certification decision, in A3 or A4 format, is exhibited at the market stand; the certification category is indicated on the document with a dot in the color of the corresponding certification category (Figure 19, Figure 20);</p> <p>Color system:</p> <ul style="list-style-type: none"> Agro-ecological = green Already advanced in the conversion process = yellow already started conversion process, but still at the beginning = orange Beginning or natural = white 	<p>No mechanism used, products of different categories are not distinguished at the marketplace</p>

In Chapingo (I) it was not controlled if vendors used the color corresponding to the certification category of their product(s) at the marketplace. Furthermore, according to the

market's president in Chapingo (I), the color system had already gotten a little bit lost (KI 1/I1). This coincides with own observations made at the marketplace (E 1-E 7).



Figure 16: Stand of vendor with assigned category “organic” at Chapingo’s organic market (source: Kaufmann, Texcoco El Cooperativo 2015)



Figure 17: Stand of vendor with assigned category “in conversion” at Chapingo’s organic market (source: Kaufmann, Texcoco El Cooperativo 2015)



Figure 18: Stand of vendor selling crafts at Chapingo’s organic market (source: Kaufmann, Texcoco El Cooperativo 2015)

In Tlaxcala, the supervising committee controlled if vendors had exhibited the document and if they were only selling those products which were certified (KI 2/I1, KI 16/I2).



Figure 19: Letter outlining the certification decision exhibited at a stand to give evidence on the respective product category at Tlaxcala’s alternative market (source: Kaufmann, Tlaxcala de Xicohténcatl 2016)

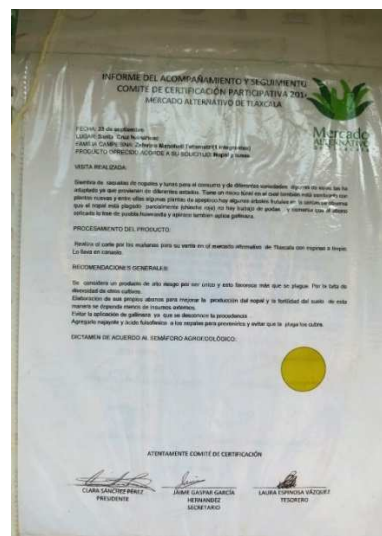


Figure 20: Example of letter outlining the certification decision used to give evidence on respective certification category at Tlaxcala’s alternative market (source: Kaufmann, Tlaxcala de Xicohténcatl 2016)

5.2.6. Processes of learning practiced in case study markets

5.2.6.1. Training and educational activities organized and their importance for market vendors' learning about organic farming and PGS

In all three markets trainings and educational workshops for market vendors and/or consumers were organized or had been organized in the past. During the time of data collection, only in Tlaxcala workshops and trainings for market vendors were organized on a regular basis. Educational workshops for consumers were only organized in Chapingo.

In Chapingo (I) there was no evidence for trainings organized for market vendors during the time of data collection. According to key informants, market vendors had received trainings and educational activities about production techniques and PGS in the past, especially at the time when the law for organic products and its guidelines were being developed (KI 13/I1, KI 1/I1). Those activities had been offered by external actors, but also by market vendors (KI 1/I1). For the new PGS scheme (Chapingo II), continuous training and capacity building for producers and processors and explicit training for members of the certification committee were planned (KI 14/I5, IR2, E 20). For consumers and the general public, workshops or seminars (*"talleres"*) were organized almost every Saturday during the market's opening hours (Chapingo I). At the time of data collection, these events were mostly held by external actors. For the new PGS scheme (Chapingo II) it was planned to resume what supposedly had been practiced in the past, namely that market vendors offered workshops for consumers on topics corresponding to the market's philosophy, sharing their own knowledge and experience (E 20).

Tlaxcala's internal market regulation defined that *"producers or their representatives [were] obliged to attend training courses"*. This duty to engage in constant training and capacity building was also mentioned and emphasized by various market members (KI 2/I3, KI 3/I1, KI 2/I4, E 9). The market's coordinator stressed the importance of constant training and capacity building of all market members in order to avoid concentration of information and knowledge (KI 2/I3, I1). Trainings were organized as workshops (*"talleres"*), which took place approximately every two months. Topics treated were agro-ecological production techniques and whatever was of relevance for market members. Workshops were organized and held by non-profit organizations which were collaborating with the market (chapter 4.2.2). Workshops were offered free of charge. In case training and capacity building was needed, market members requested it from the organizations. According to the market's coordinator, workshops had also been offered by actors from the University of Chapingo in the past and at the time of data collection, the market had an agreement with some actors from the University for some workshops. No workshops or educational events were held for consumers. However, events organized for market members were open to the public and consumers were free to participate (KI 2/I1).

In Oaxaca, workshops and trainings on agricultural production techniques were organized for market members. However, in the year prior to data collection, only one workshop had been held about *"management of emotions and companionship"* (KI 5/I1). According to the market's president, workshops were only organized for market members and not for consumers. However, during the year prior to data collection two workshops on recycling had been organized for consumers by external actors (KI 5/I1).

The differences between markets regarding the organization of trainings and educational activities for market members were also reflected in survey results. Of those vendors who participated in the survey, 76.7% stated that they had received training or technical advisory through the market or *the Network* (n=60). In Chapingo, it was 72.7% (n=22), in Tlaxcala 86.7% (n=15) and in Oaxaca 73.9% (n=23). However, while in Tlaxcala 92.3% of those vendors who had received training had received the last training in 2015 (n=13), in Chapingo it was only 46.2% (n=13) and in Oaxaca 37.5% (n=16). Fifty percent of respondents in Oaxaca and 38.5% of respondents in Chapingo had received the last training or technical

advisory in 2012 or before. Differences between markets regarding the year survey participants had received the last training or technical advisory were tested using Kruskal-Wallis-H test. Results were significant (exact $p=0.027^*$, $n=42$), with the highest mean rank in Tlaxcala, followed by Chapingo and Oaxaca. Mann-Whitney-U tests applied for pair-by-pair comparison of each two markets regarding the variable “*year when last training was received*” showed that results differed significantly between the market in Tlaxcala and the market in Oaxaca ($U=52$, exact $p=0.007^{**}$, $n=29$) with the higher mean rank in Tlaxcala. Kolmogorov-Smirnov test also showed significant results between the market in Tlaxcala and the market Oaxaca (exact $p=0.007^{**}$, $n=29$).

Survey participants were also asked to evaluate the importance of workshops organized through the market for them to learn about organic farming and PGS on a 6-point ordinal scale with the following response options: *no importance*, *very low importance*, *low importance*, *regular importance*, *high importance*, *very high importance*. Seventy-four percent of respondents who had received training or technical advisory evaluated workshops organized through the market as *very highly important* or *highly important* for learning, another fifth (21.7%) indicated regular importance ($n=46$). Differences between markets were not statistically significant (Kruskal-Wallis-H test, exact $p=0.986$, $n=46$).

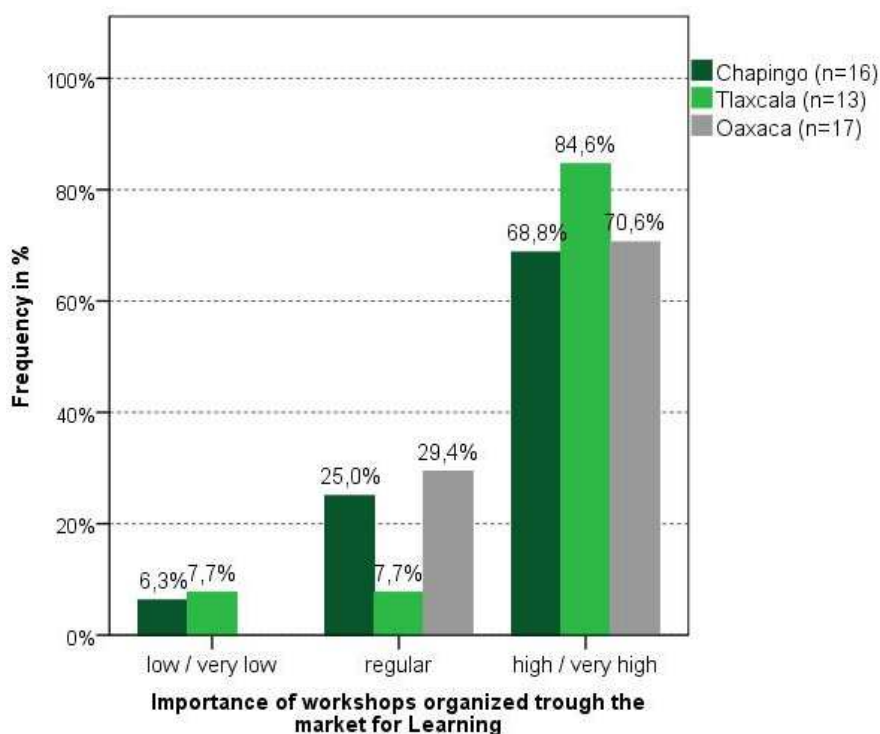


Figure 21: Importance of workshops organized through the market for vendors' learning about organic farming and PGS, evaluated by vendor survey participants ($n=46$, 100%= n within market case)

For testing the hypotheses that “**vendors who have received training, show higher levels of self-assessed knowledge about organic farming than vendors who have not received training (H4a)**” and that “**vendors who have received training show higher levels of self-assessed knowledge about PGS than vendors who have not received training (H4b)**”, survey participants were additionally asked to self-assess their knowledge about organic farming on a 6-point ordinal scale with the following options: *zero knowledge*, *very low knowledge*, *low knowledge*, *regular knowledge*, *high knowledge*, *very high knowledge*. The same question was asked for their knowledge about PGS.

For the total sample, survey respondents' mean evaluation of their knowledge about organic farming was 3.45 (3=*regular*, n=60). Forty-three percent (43.3%) of respondents evaluated their knowledge about organic farming as *high* or *very high*, 53.3% as *regular* and 3.3% as *low* or *very low* (n=60). The mean evaluation of respondents' knowledge about PGS for the total sample was 3.25 (3=*regular*, n=60). Thirty-three percent (33.3%) of respondents evaluated their knowledge about PGS as *high* or *very high*, 56.7% as *regular* and 10% as *low* or *very low* (n=60).

For those survey respondents who had received training, the mean evaluation of their knowledge about organic farming was 3.52, the mean evaluation of their knowledge about PGS was 3.43 (n=46). For those respondents who had not received training, the mean evaluation of their knowledge about organic farming was 3.21, the mean evaluation of their knowledge about PGS was 2.64 (2=*low*, n=14).

Mann-Whitney-U test and Kolmogorov-Smirnov test were applied to compare the two groups "*received training*" and "*not received training*" for their self-assessed level of knowledge about organic farming and PGS. For vendors' knowledge about PGS, the difference was statistically significant (U=161, exact p=0.001**; Kolmogorov-Smirnov Z=1.424, exact p=0.002**; n=60) (Figure 22). Those vendors who had received training showed the higher mean rank, meaning that they evaluated their knowledge higher than those vendors who had not received training.

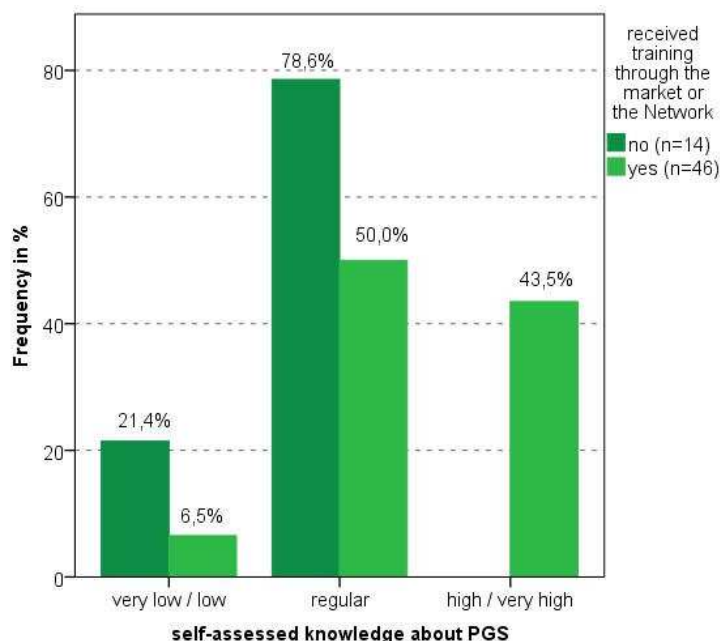


Figure 22: Vendor survey participants' self-assessed knowledge about PGS for survey participants who had received training and survey participants who had not received training (n=60, 100%=n within group)

In the case of vendors' knowledge about organic farming, respondents who had received training also showed the higher mean rank but the difference was not statistically significant (U=268, exact p=0.296; Kolmogorov-Smirnov Z=0.468, exact p=0.407; n=60). Differences of vendors' self-assessed knowledge were also tested between markets using Kruskal-Wallis-H test for comparing the three groups of vendors for the three markets. Differences were not statistically significant.

When asked if they wished to receive more training in the future, 96.6% of respondents answered in the affirmative (n=59). In Chapingo it was 95.5% (n=21), in Tlaxcala 100% (n=15) and in Oaxaca 95.5% (n=20). Topics most frequently mentioned were organic

production techniques such as pest and disease management or composting (46.4%), production techniques for specific crops (23.2%) and the national organic law, its regulation and guidelines (14.3%) (n=56) (Table 24).

Table 24: Topics vendor survey participants wished to receive more training in the future most frequently mentioned in Chapingo, Tlaxcala and Oaxaca (relative frequency and rank (in brackets) within market cases; open question; n=56)

Topic	CHAPINGO		TLAXCALA		OAXACA	
n within market case = 100% for each topic	(n=21)		(n=15)		(n=20)	
Organic production techniques	52.4%	(1.)	26.7%	(2.)	55.5%	(1.)
Production techniques for specific crops	14.3%	(4.)	40%	(1.)	20%	(2.)
The national organic law, its regulation and guidelines	19%	(2.)	6.7%	(6.)	15%	(3.)
PGS (participatory certification)	9.5%	(5.)	20%	(3.)	5%	(5.)
Processing	19%	(2.)	13.3%	(4.)	5%	(5.)
Internal organization	9.5%	(5.)	13.3%	(4.)	10%	(4.)

5.2.6.2. Learning and experience exchange as part of the participatory certification process

Learning and experience exchange was fostered as part of the participatory certification process with differing degrees between markets. Recommendations for improvement in the case an operator showed non-compliances with applied production standards were issued in all three markets. Knowledge and experience exchange between the operator visited and the certification committee during the visit was only explicitly mentioned in Chapingo (II) and Tlaxcala. In Chapingo (II) the operator in addition would be provided with information material before starting the participatory certification process (KI 1/I1, IR1, IR2, KI 3/I1, KI 5/I1, KI 2/I1).

One of the members of Tlaxcala's certification committee also emphasized learning as part of the participatory certification process for members of the certification committee:

"Being part of this requires a lot of time, it means having a lot of time. But you also learn a lot, right? We are part of the certification committee, because we know about it, we know the rules, we know what agroecology is. But you do not know everything and by being there you learn. All of a sudden they tell you, 'look... this plant... it serves for this'. And you are like, 'oh really?'" (KI 3/I1)vi

Survey participants were also asked to indicate the importance of their participation in the participatory certification process for them to learn about organic farming and PGS on a 6-point ordinal scale with the following response options: *no importance, very low importance, low importance, regular importance, high importance, very high importance*. Seventy-four percent of those vendors who had participated either in the certification committee or in peer review visits, evaluated participation as *highly* or *very highly* important for learning, 17.9% as moderately important and 7.7% indicated *low* or *very low* importance (n=39) (Figure 23). Differences between markets were not statistically significant (Kruskal-Wallis-H test, exact p=0.870, n=39).

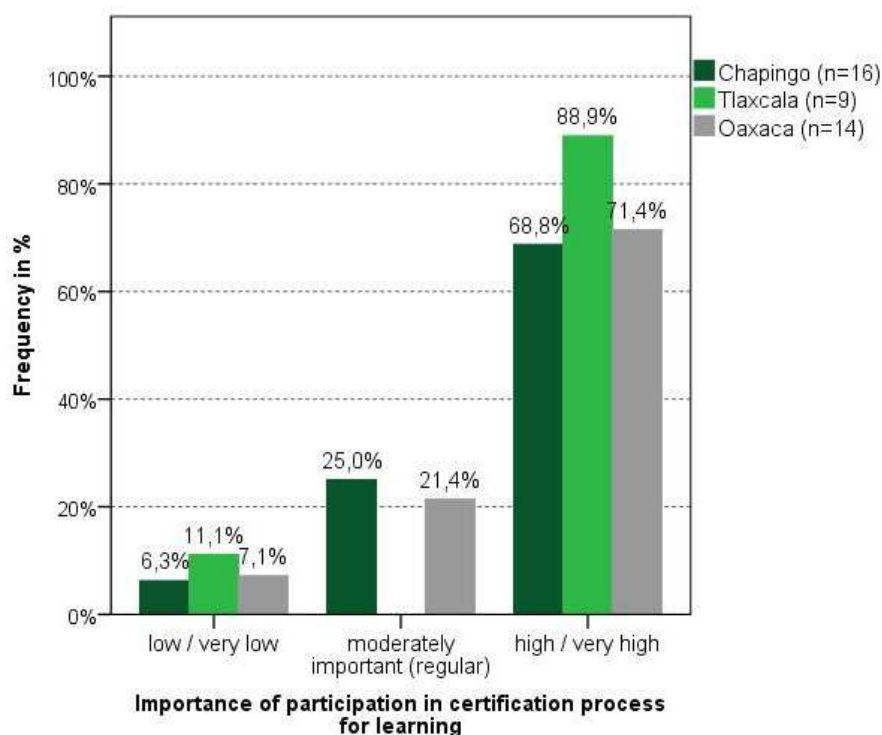


Figure 23: Importance of participation in the participatory certification process for vendors' learning about organic farming and PGS, evaluated by vendor survey participants (n=39, 100%=n within market case)

5.2.7. Sharing and rotation of responsibilities among market vendors

In all three markets, responsibilities regarding the market organization, the participatory certification process and other activities, such as workshops or cultural events at the marketplace, which were organized as part of the PGS, were shared among market members by means of different committees (chapter 5.1). Except for Chapingo (II) vendors were the only actor group engaged in these committees.

In all three markets all market members were free to participate and stand for election for them to hold one of the defined positions. Some requirements were defined for members of the certification committee in Chapingo (I & II), with regard to their experience and skills in organic farming and certification (chapter 5.1.1).

The market in Oaxaca had the fewest number of organizational units and roles defined, although it had by far the highest number of vendors. Dividing the number of different positions within the market's organizational structures by the number of stands, 17% of market vendors responsible for a stand could participate in the different committees defined. In Chapingo (I), it was 54%, in Tlaxcala, 75%. In Chapingo (II) 43% would be able to participate, due to the fact that three actors from the university and one consumer would be participating in the new certification committee or as market representatives.

In Oaxaca the market's president was also a member of the certification committee. As explained by him, he had already been a member of the certification committee when he was elected as president and it was not possible to re-elect positions in the certification committee due to a lack of training of and interest from other market members. He also stressed that rotation and sharing of responsibilities among market members was generally difficult, caused by a lack of training of and interest from many market members (KI 5/11).

Re-election of positions in Oaxaca was ought to take place every two years for the certification committee and every year for other committees. Re-election of the certification committee was an option (IR4).

In Tlaxcala, rotational principles were the same. The certification committee in place at the time of data collection was the first one to be elected for a period of two years. According to key informants, frequency of re-election had been changed to two year terms in order to allow for more continuity of the certification committee's work and to give them the opportunity to advance their work. The same was being considered for the market coordination (KI 3/I1, KI2/I1).

Chapingo's (II) new regulation for the PGS also stipulated two-year terms for the certification committee and provided for the possibility of re-election, with the purpose of "*guaranteeing stability and continuity of the committee's work* (IR2)". According to the old regulation (I), the certification committee was re-elected every year and re-election was not possible in order to give "*others the chance to participate and learn* (IR1)".

5.2.8. Participation of market vendors and consumers in the PGS

Except for Chapingo (II), market vendors were the only actor group participating in markets' certification committees at the time of data collection. Consumers, although not participating in the certification committee according to key informants were invited to participate in peer review visits in Tlaxcala and Chapingo (I). In Tlaxcala, participation of one consumer in the certification committee was theoretically planned but had not been put into practice.

Hence, market vendors' participation in the market's certification committee and in peer review visits will be emphasized in more detail based on survey results. Besides, consumers' awareness of the PGS and their participation will be treated at the end of the chapter, based on survey results.

5.2.8.1. Vendor survey participants' participation in the certification committee and in peer review visits

For exploring the status quo of participation in the certification committee and in peer review visits within the group of market vendors, survey participants were asked if they had participated in the market's certification committee and in peer review visits. Respondents who answered the question in the affirmative were asked in open-ended questions when they had participated for the last time and why they had participated. Indicated reasons were coded inductively for the purpose of quantitative data analysis. Vendors who had not participated were asked why they had not participated, using a closed single-response question. Besides, formulated hypotheses (chapter 3.2) on factors related to vendors' participation were tested.

In addition, survey participants were asked if they participated in decision-making regarding the market's PGS.

In total, 54.1% of vendors surveyed had participated in their market's certification committee, with no statistically significant differences between markets (Chi-square test, $p=0.893$, $n=60$). In Chapingo it was 54.5% ($n=22$), in Tlaxcala 46.7% ($n=15$) and in Oaxaca 52.2% ($n=23$).

Of those 31 respondents who reported participation, 40% had participated in 2015 for the last time and another 20% in 2014. A bit more than one quarter (26.7%) stated that they had participated the last time in 2013. Eighty-seven percent had participated within three years prior to data collection ($n=30$, 1 missing value) (Figure 24). For the total sample, 20% of respondents had participated in 2015 for the last time, 10% in 2014 and 13.33% in 2013. Forty-three percent (43.3%) of the total sample of vendors surveyed had participated within three years prior to data collection ($n=60$).

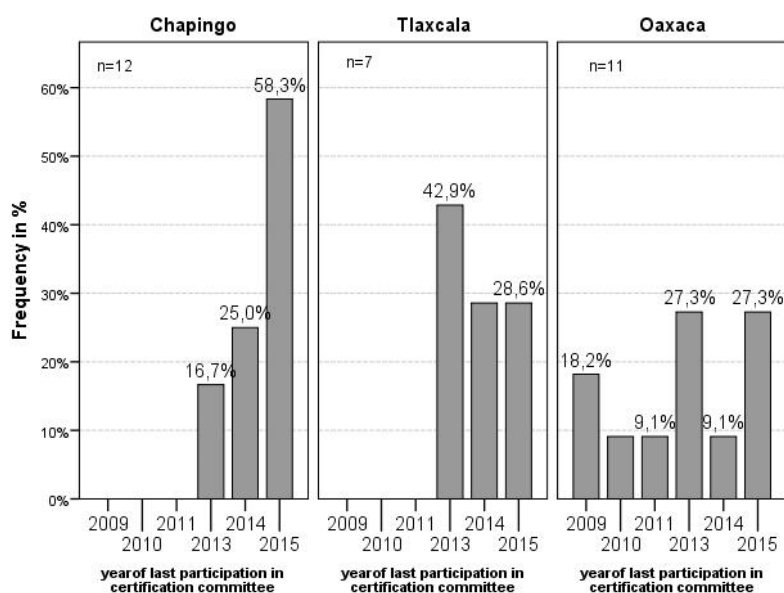


Figure 24: Year when vendor survey participants participated for the last time in the certification committee (n=30, 100%=n within market case)

In Chapingo and in Tlaxcala, all respondents who answered the question for participation in the certification committee in the affirmative had participated in 2013, 2014 or 2015 for the last time. In Oaxaca 36% had participated for the last time before 2013 (n=11). Differences between markets regarding the year of last participation were not statistically significant (Kruskal-Wallis-H test, exact $p=0.058$, $n=30$). The high percentage of actors participating in Chapingo's certification committee in 2015 may reflect the fact that the certification committee had been re-elected during the first half of the year and that afterwards two certification committees were in place, due to the prevailing situation among market members (chapter 5.1.1).

Participation of market vendors in peer review visits was higher than participation in the certification committee. Differences between the markets were neither statistically significant (Chi-square test, $p=0.309$, $n=60$). Almost two thirds (65%) of vendors had participated in visits to other market vendors' production and/or processing units (n=60). In Chapingo it was 77.3% (n=22), in Tlaxcala 60% (n=15) and in Oaxaca 56.5% (n=23). As expected, the relationship between survey respondents' participation in the certification committee and their participation in peer review visits was statistically very highly significant (Chi-square test, $p=0.000^{***}$, $\phi=0.759$, $p=0.000^{***}$, $n=60$).

Of those vendors who had not participated in the certification committee, slightly more than one quarter (27.6%) had participated in peer review visits (n=29). In Chapingo, 50% of those respondents who had not participated in the certification committee had participated in peer review visits (n=10), in Tlaxcala 25% (n=8) and in Oaxaca only one respondent (9.1%, n=11).

Each 28.9% of those respondents, who had participated in peer review visits, had participated in 2015 or in 2014 for the last time and another fifth (21.1%) in 2013. In total, 78.9% had participated within three years prior to data collection (Figure 25). For the total sample, 18.33% of respondents had participated in 2015 for the last time, 18.33% in 2014 and 13.33% in 2013. Fifty percent (49.9%) of the total sample of vendors surveyed had participated within three years prior to data collection (n=60).

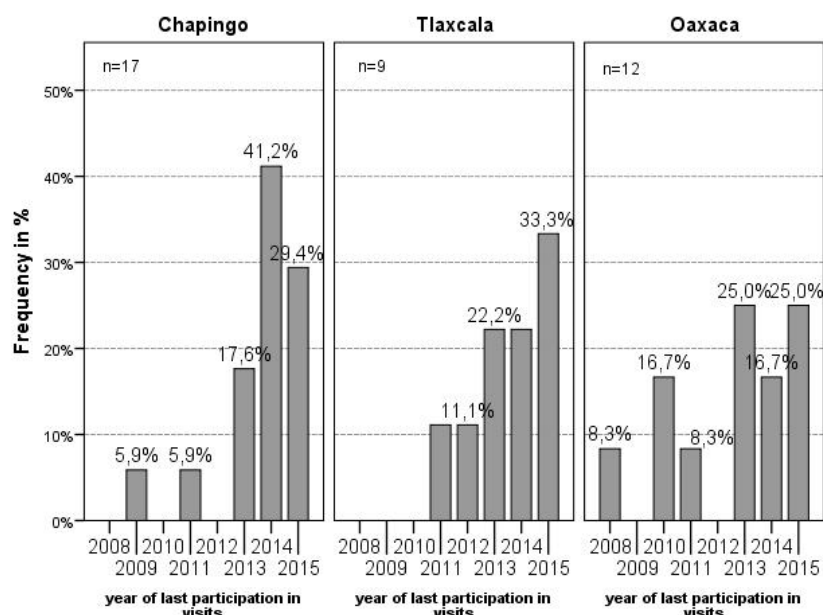


Figure 25: Year when vendor survey participants participated for the last time in peer review visits (n=38, 100%=n within market case)

5.2.8.2. Factors related to vendors' participation in the certification committee and in peer review visits

For testing the hypothesis that “**vendors who participate in the certification committee have higher levels of formal education than vendors who do not participate in the certification committee (H1)**”, Chi-square test was used to test independency between the dichotomous variable *highest level of formal education completed* and the dichotomous variable *participation in the certification committee*. Respondents indicated their highest level of formal education completed on a pre-defined ordinal scaled variable. Due to the small sample size, response options were summarized in two categories for testing the relationship between the two variables. Resulting categories were **elementary and basic education**, including the response options *primary school not completed*, *primary school*, *secondary school*, *high school* and *other educational forms* indicated that were not on a post-secondary educational level, and **higher education**, including the response options *university degree*, *master's degree* and *doctoral degree*. Results were statistically significant (Chi-square test, $p=0.035^*$, $n=60$). Significantly more respondents who had a university, master's or doctoral degree had participated in the certification committee. However, the association was weak ($\phi=0.272$, $p=0.035^*$). For the original scale of the variable *highest level of formal education completed*, results were not statistically significant (Freeman-Halton test, $p=0.157$, $n=60$). Using the reduced scale, educational levels showed to differ significantly between respondents in Chapingo and respondents in Tlaxcala (Chi-square-test, $p=0.027^*$, $\phi=0.363$, $n=37$), with higher educational levels in Chapingo. Within markets, the relationship between the two variables was not significant, adjusted residuals were overrepresented in the cell “*higher education*” and underrepresented in the cell “*elementary and basic education*” for respondents who had participated in the certification committee.

For testing the hypotheses “**vendors who participate in the certification committee show higher levels of self-assessed knowledge about PGS than vendors who do not participate in the certification committee (H2b)**” and “**vendors who participate in the certification committee show higher levels of self-assessed knowledge about organic farming than vendors who do not participate in the certification committee (H2a)**”, Mann-Whitney-U test and Kolmogorov-Smirnov test were used for comparing the two

samples “*participated*” and “*not participated*”. Knowledge about organic farming and PGS was indicated by survey participants on a 6-point ordinal scale with the following options: *none, very low, low, regular, high, very high* (chapter 5.2.6.1). For those survey respondents who had participated in the certification committee, the mean evaluation of their knowledge about organic farming was 3.45, the mean evaluation of their knowledge about PGS was equally 3.45 (3=*regular*, n=31). For those respondents who had not participated in the certification committee, the mean evaluation of their knowledge about organic farming was 3.45, the mean evaluation of their knowledge about PGS was 3.03 (3=*regular*, n=29).

For vendors’ *self-assessed knowledge about PGS*, results were statistically significant (U=312, exact p=0.022*; Kolmogorov-Smirnov Z=1.206, exact p=0.014*; n=60). Vendors who had participated in the certification committee showed the higher mean rank, meaning that they tended to evaluate their knowledge higher (Figure 26).

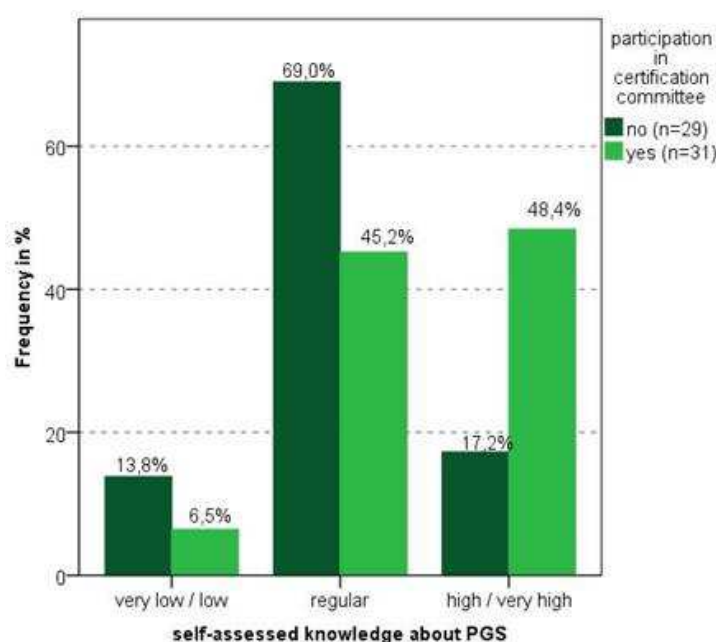


Figure 26: Vendor survey participants’ self-assessed knowledge about PGS for survey participants who had participated in the certification committee and survey participants who had not participated in the certification committee (n=60, 100%=n within group)

For vendors’ *self-assessed knowledge about organic farming*, the difference between the two groups was not statistically significant (U=447, exact p=0.944; Kolmogorov-Smirnov Z=0.276, exact p=0.732; n=60). The mean rank was almost equal.

For testing the hypotheses “**vendors who participate in peer review visits show higher levels of self-assessed knowledge about PGS than vendors who do not participate in peer review visits (H2d)**” and “**vendors who participate in peer review visits show higher levels of self-assessed knowledge about organic farming than vendors who do not participate in peer review visits (H2c)**”, the same procedure as for testing hypotheses H2a and H2b was applied. For those survey respondents who had participated in peer review visits, the mean evaluation of their knowledge about organic farming was 3.41, the mean evaluation of their knowledge about PGS was 3.38 (3=*regular*, n=39). For those respondents who had not participated in peer review visits, the mean evaluation of their knowledge about organic farming was 3.52, the mean evaluation of their knowledge about PGS was 3 (3=*regular*, n=21). Results were not statistically significant, neither for vendors’ self-assessed knowledge about PGS (U=302.5, exact p=0.062; Kolmogorov-Smirnov Z=0.812, exact p=0.151; n=60), nor for their self-assessed knowledge about organic farming

($U=370$, exact $p=0.529$; Kolmogorov-Smirnov $Z=0.433$, exact $p=0.992$; $n=60$). Those vendors who participated in visits, showed the higher mean rank for their self-assessed knowledge about PGS and the lower mean rank for their self-assessed knowledge about organic farming.

5.2.8.3. Reasons for participating or not participating in the certification committee and in peer review visits reported by vendor survey participants

Aspects most frequently reported as a reason to participate in the market's certification committee were with regard to guaranteeing other vendors' compliance with standards, to the contribution to transparency and trust and/or to the provision of certainty regarding the origin of products and production processes (42%). Besides, learning was mentioned by 29% of respondents and another quarter (26%) stated that they participated to help their colleagues to improve their production processes ($n=31$). These reasons were also the reasons mentioned most frequently within market cases, although with different frequencies (Figure 27). Differences between the three markets with regard to the frequency of responses for these three reasons were not statistically significant (Freeman-Halton test for variable market and dichotomous variable for each of the three reasons).

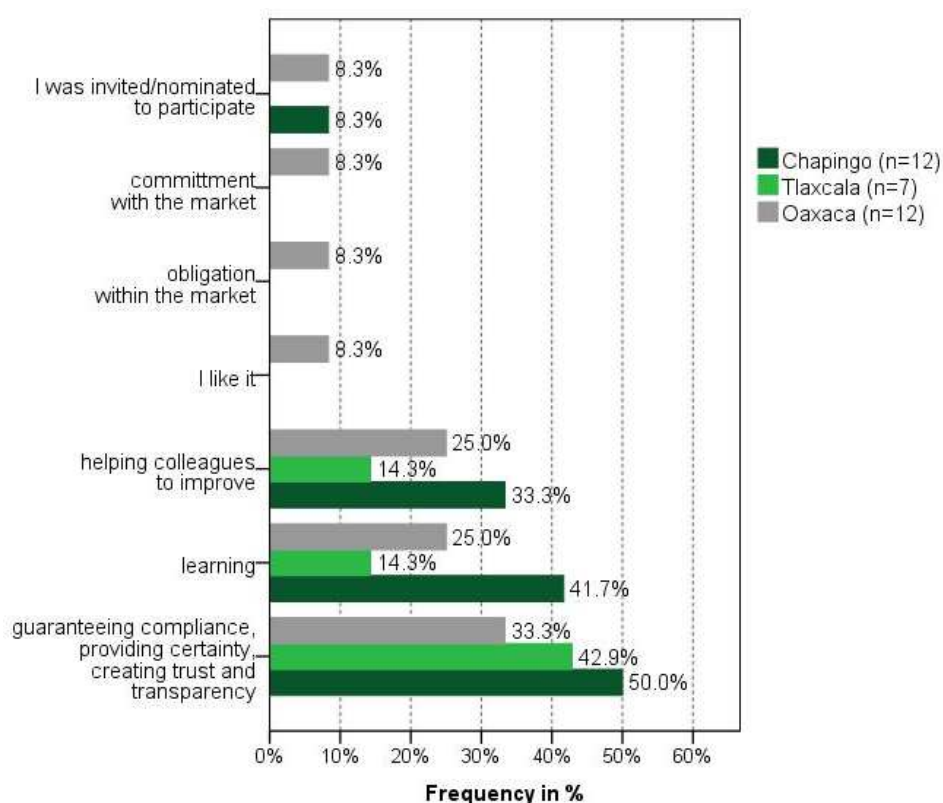


Figure 27: Reasons for participating in the certification committee mentioned by vendor survey participants (open question, $n=31$, 100%= n within market case for each category)

Learning and experience exchange also showed to be one of the fundamental reasons for vendors to participate in peer review visits. Almost half (46%) of respondents reported learning as a reason to participate in peer review visits, with regard to learning new production techniques. Another 31% stated that they participated in order to share their own knowledge with operators visited and help other market members to improve their production processes. Twenty-eight percent stated that they wanted to get to know their colleagues' production units, without further specifying whether it was for learning, fostering certainty

about operators' compliance with applied standards or for any other reason (n=39) (Figure 28).

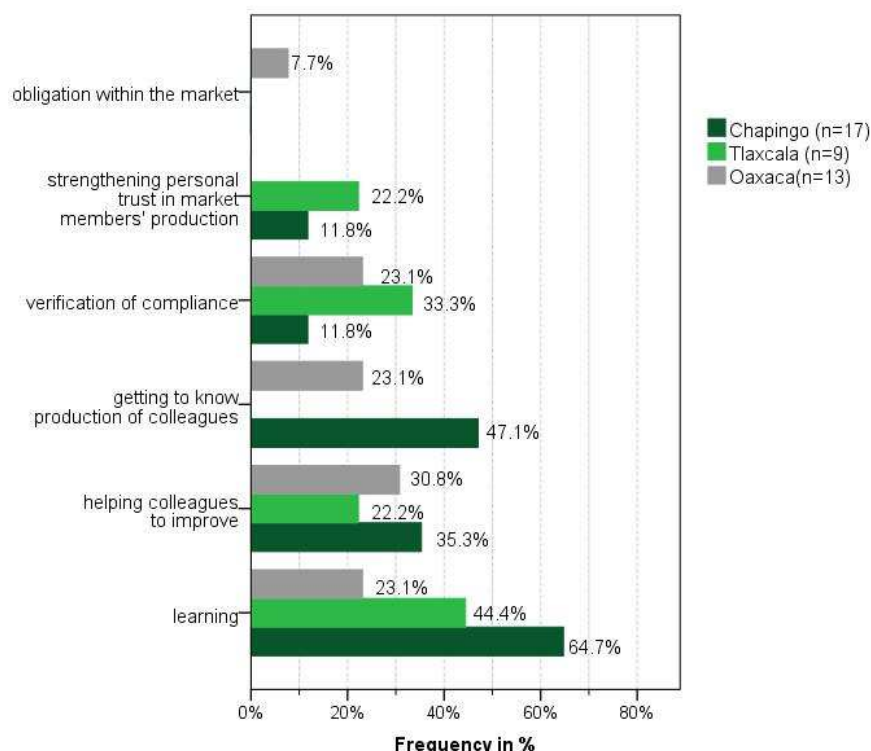


Figure 28: Reasons for participating in peer review visits mentioned by vendor survey participants (open question, n=39 100%= n within market case for each category)

For collecting data on *reasons for not participating* in the certification committee and in peer review visits, closed-ended questions were used. The item-set included the following response-options:

- I do not / did not have time*
- I live too far away*
- I have the feeling that I do not have enough knowledge*
- It does not seem important to me*
- Lack of transportation*

Respondents did also have the option to report reasons not included in the pre-defined item set.

The reason for not participating in the certification committee most frequently mentioned was the fact that respondents *had not been nominated to participate* (35%), an option that was not included in the pre-defined item set. Another 17% reported that they *did not have time* and 14% stated that they felt as if they *did not have enough knowledge* to participate or that they had been *holding another position* in the market organization, an option that was neither included in the pre-defined item set (n=29) (Figure 29).

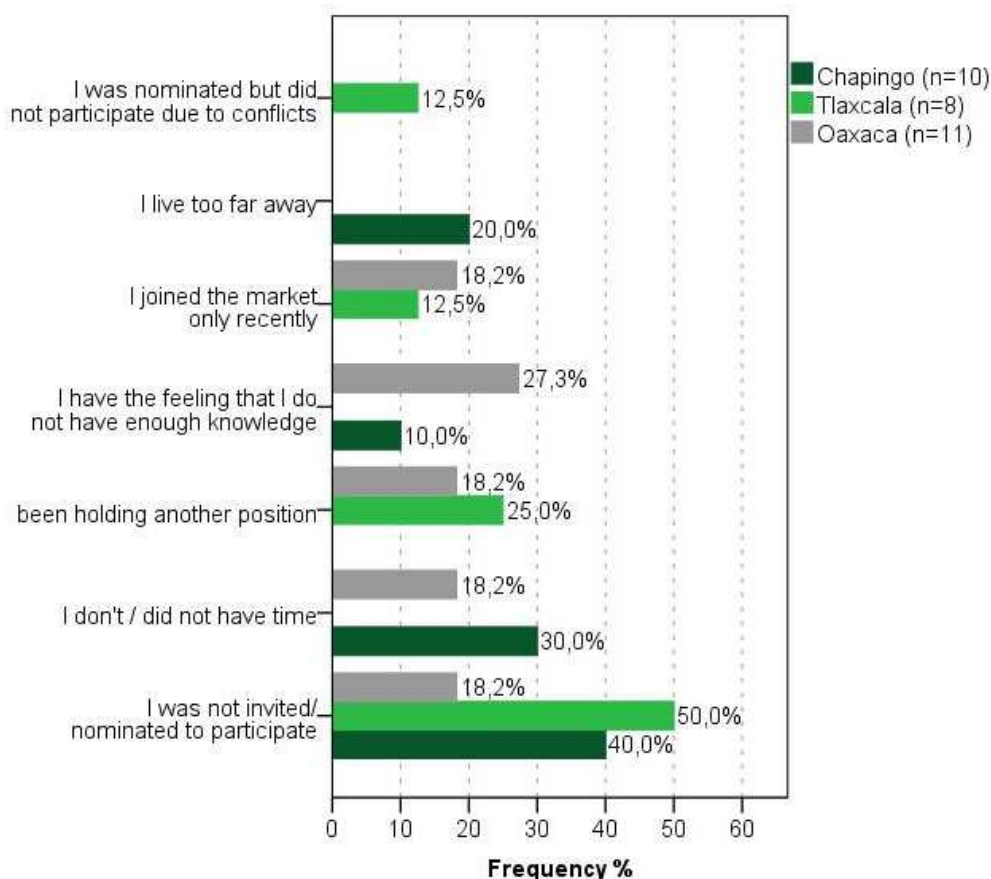


Figure 29: Reasons for not participating in the certification committee indicated by vendor survey participants (single-response option, n=29, 100%=n within market case)

What sticks out comparing the three markets is that the reason most frequently mentioned in Chapingo and Tlaxcala was the fact that respondents *had not been invited or nominated to participate*. Two respondents in Chapingo stated that the reason for not being invited was also due to ongoing conflicts, one respondent additionally explained the fact that he had not participated with egoism and the formation of power groups among market members and the fact that people would not let him participate due to a lack of experience with organic farming.

In Oaxaca the feeling of *not having enough knowledge was the reason most frequently mentioned*.

In Chapingo, *lack of time* placed second. As one respondent in Chapingo emphasized:

“the truth is, I had other obligations. Well, they did not invite me to participate in the committee, but if they invite me... I can't commit if I know that when I have other things to do and other obligations, for example, sell my products at some place...that I won't participate in the committee because there [in that other place] I earn more (KI 11/11).”^{vii}

In Tlaxcala the fact that respondents had been *holding another position* in the market organization placed second.

Due to the small sample size and the number of different responses it could not be tested if there was a statistically significant difference between the frequency of responses for different reasons, neither for the total sample nor within markets (JANSSEN AND LAATZ, 2010).

For peer review visits, the reason most frequently reported, by one fifth of respondents (19%) was *time constraints*, followed by the *perception of not having enough knowledge, too short participation in the market, not being invited/informed about visits and not being a member of*

the certification committee, each mentioned by 14% of respondents. Ten percent reported that it was due to the lack of transportation (n=21) (Figure 30).

What sticks out when comparing results for the markets is the fact that *I have not been invited* or *visits were not announced to me*, as an option not included in the pre-defined item set, was mentioned by 60% of respondents in Chapingo (n=5), but by any respondent in other markets. One respondent who reported this as a reason added that the fact that he/she had not been invited was due to ongoing conflicts and the fact that the prior certification committee had not invited other market members to participate in peer review visits. Another respondent also mentioned that the process formerly had not been open to everyone, that *“there was an application, the visits and afterwards the final results, but we did not know about anything (KI 11/I1)”*.

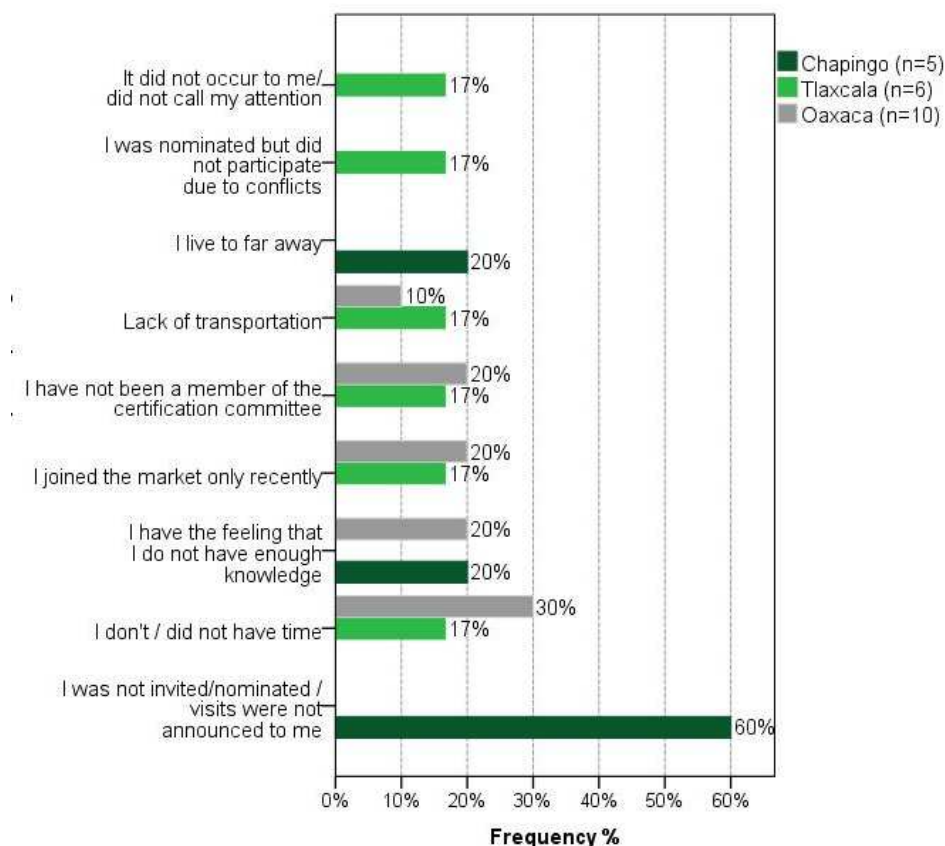


Figure 30: Reasons for not participating in peer review visits indicated by vendor survey participants (single-response option, n=21, 100%=n within market case)

In all three markets the General Assembly as the collective of all market members was the organizational unit where – according to key informants and key documents - major decisions concerning the market were made. Except for Chapingo (II) some decisions throughout the participatory certification process and the process of admission to the market were also taken by the General Assembly. However, when survey respondents were asked if they participated in the decision-making regarding the market's participatory certification process, a slight minority of 48% of respondents answered the question in the affirmative (n=60). In Chapingo, it was 50% (n=22), in Tlaxcala 53% (n=15) and in Oaxaca 44% (n=23). Besides, the statistically highly significant result of Chi-square-test, applied for testing the relationship between the dichotomous variables *participation in the certification committee* and *participation in decision-making regarding the participatory certification process* (Chi-square test, $p=0.000^{***}$, $n=60$, $\phi=0.468$, $p=0.000^{***}$), suggests that the certification

committee had the main decision-making authority with regard to the participatory certification process.

5.2.8.4. The role of consumers in markets' PGS: consumer survey participants' awareness of and participation in the PGS

Consumers who participated in the survey were asked if they had ever heard about PGS (referred to as *participatory certification* in the questionnaire). For the total sample, only one quarter (24.6%) answered the question in the affirmative, with statistically significant differences between the market in Chapingo and the market in Oaxaca (Chi-square test, $p=0.014^*$, $\phi=-0.379$, $p=0.014^*$, $n=42$).

While in Chapingo, 43% of respondents had heard about PGS, in Tlaxcala it was only one fifth (21%) and in Oaxaca not even 10% (2 respondents, 9.5%).

Based on the assumption that consumers who have spent more time attending the market are more likely to be aware of the PGS, it was tested if there was a statistically significant difference between those consumers who had heard about PGS and those who had not regarding the time they had been attending the market for. The time consumers had been attending the market for was indicated by survey respondents in metric values. As normal distribution was not given, Mann-Whitney-U test was used for comparing the two samples "*heard about PGS*" and "*not heard about PGS*". Results were statistically significant ($U=165.5$, exact $p=0.025^*$, $n=56$). Consumers who had heard about PGS showed the higher mean rank and thus longer time of market attendance.

Of those consumers who indicated to have heard about PGS ($f=15$), three (20%) had participated in peer review visits, two in Tlaxcala and one in Oaxaca. The respondent in Oaxaca may have referred to visits of production units organized by some producers independently from the participatory certification process. One consumer in Tlaxcala and one in Oaxaca had participated in 2015 for the last time, one in Tlaxcala in 2012. None of the consumers surveyed had participated in the certification committee.

In Oaxaca, participation of consumers in the certification committee and in visits was not intended as part of the PGS. In Tlaxcala and in Chapingo, it was. However, results coincide with information given by key informants. According to them, participation of consumers in the certification committee and in visits had been planned but not realized on a continuous basis yet in Tlaxcala (KI3/I1) and participation of consumers in the certification committee had been a topic poorly treated and needed to be emphasized in Chapingo (E 19 KI 14/I4, KI 15). Regarding visits, few consumers had participated in Chapingo according to key informants, although consumers had always been invited (KI 1/I1, E 19 KI 14/I4).

Consumers who had heard about PGS were asked why they had not participated in the market's certification committee and in peer review visits, using a closed-ended question. The item-set included the following response options:

I do not have / did not have time

I live too far away

I have the feeling that I do not have enough knowledge

It does not seem important to me

Lack of transportation

I did not know that consumers can participate

Respondents also had the option to report other reasons. Twenty-nine percent of respondents reported that they did not know that consumers could participate. Each 14% indicated that they did not participate due to lack of transportation, far distances to their home or the feeling that they did not have enough knowledge to participate (2 respondents each). One fifth (20%, 3 respondents) stated that they did not have enough time ($n=14$)

(Figure 31). Lack of time to participate according to key informants was also mentioned as a potential hindering factor by many consumers who were interested to participate in the new certification committee in Chapingo (II).

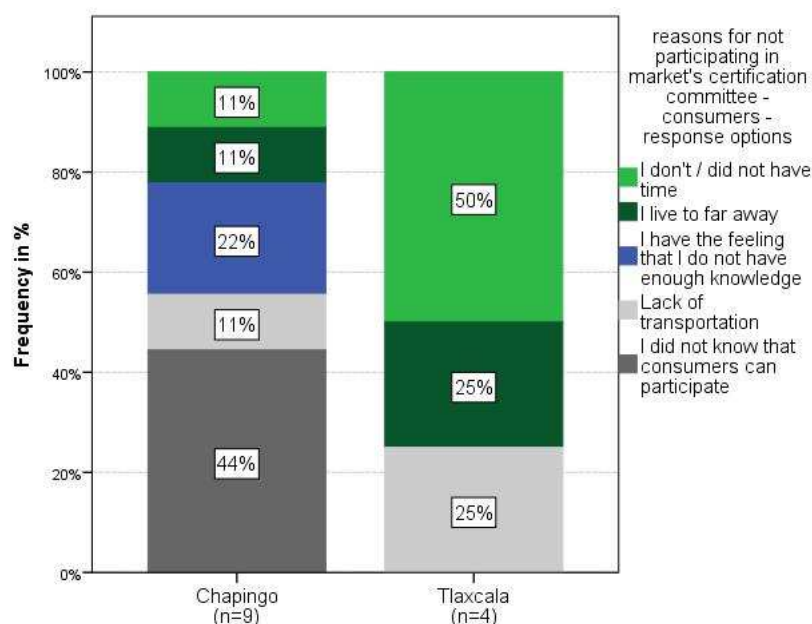


Figure 31: Reasons for not participating in the certification committee indicated by consumer survey participants (single-response option, n=13, 100%=n within market case)

For peer review visits similarly one third (33%) of respondents reported that they did not know that consumers could participate. One quarter of respondents indicated lack of transportation as a reason. One respondent each did not have enough time or had the feeling of not having enough knowledge to participate. Two respondents (17%) stated that they lived too far away (n=12) (Figure 32).

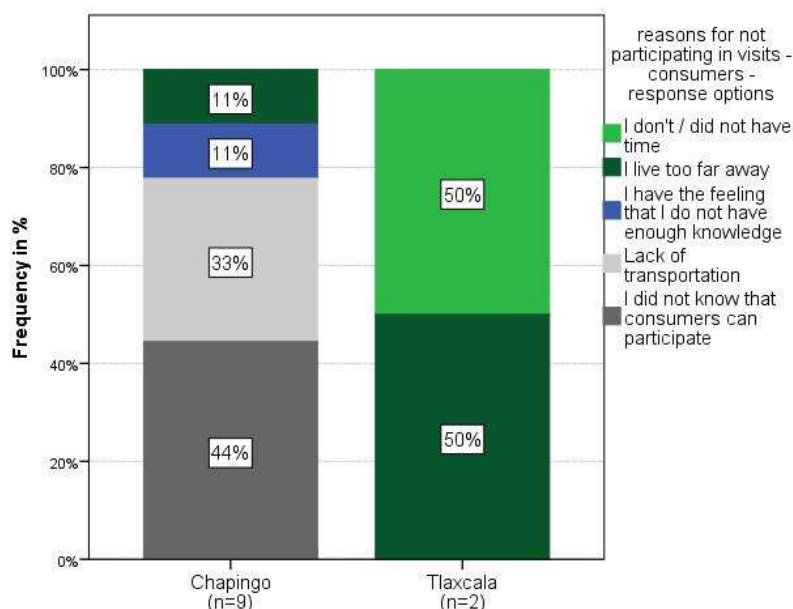


Figure 32: Reasons for not participating in peer review visits indicated by consumer survey participants (single-response option, n=11, 100%=n within market case)

Due to the small sample size and the number of different reasons indicated, it was not possible to apply a Chi-square goodness of fit test in order to test if the frequencies of responses differed significantly between the different reasons for participation, neither for the total sample, nor within markets (JANSSEN AND LAATZ, 2010). Differences between markets could neither be tested.

5.2.9. Transparency: Accessibility of key documents and information gathered throughout the participatory certification process to market vendors

All three markets had at least one key document, an internal regulation. Besides, throughout the participatory certification process, written membership applications, the visit report and some other documents were generated. These documents and information contained in these documents, as for example information about an applying operator, observations made during a visit or the final certification decision were communicated to and made available for all market members with differing degrees between markets.

The internal market regulation in Chapingo (I) could be requested from the certification committee (KI 1/I1). However, the participatory certification process was not well defined in this document (IR1). For the new PGS scheme (Chapingo II) it was planned to provide operators with a copy of the PGS regulation when they applied for membership in the market (IR2).

In Tlaxcala, operators were also provided with a copy of the internal regulation when applying for membership in the market (KI 3/I1). Besides, the regulation was published on the walls of the room where General Assembly meetings were held (E 9). However, this regulation did not lay down the participatory certification process (IR3). In the case of the regulation for the market's PGS, only the certification committee had a copy.

In Oaxaca, a copy of the market's internal regulation was handed over to new operators after they had already been admitted to the market and had paid the entrance fee (KI 5/I1). The participatory certification process was not laid down in the regulation (IR4).

Membership applications, the visit report and the letter outlining the certification decision were kept in a record of each market vendor. These records in all three markets were kept by the certification committee. In Tlaxcala, the market coordination did also have a copy (KI 1/I1, KI 2/I1 KI 3/I1, KI 5/I1).

In Chapingo (I) the market's president stressed that after they had been presented to the General Assembly, documents generated throughout the participatory certification process were only accessible for the operator certified and the certification committee, for reasons of confidentiality with regard to exact elaboration processes, ingredients or recipes (KI 1/I1). Some market vendors did have a folder at the marketplace which included documents generated throughout the participatory certification process.

In Tlaxcala and Oaxaca documents were accessible for all market members and for consumers. Access to the documents had to be requested in advance, as both markets were held at a public square and there was no possibility of storing documents at the market. Thus, actors did not always have the documents at the market (KI 2/I1 KI 3/I1, KI 5/I1).

In Tlaxcala, a short version of the letter outlining the certification decision was exhibited at the marketplace. Therefore, general information about control points inspected during the visit, processes applied, recommendations made and the exact certification decision was visible to the public at the marketplace.

For the communication of important information between market members, the General Assembly as collective of all market members in all three markets played an important role. Decisions throughout the participatory certification process were either made by the General Assembly or information about the certification of an operator was presented to the General

Assembly at some point – either when the operator was applying, or after the final certification decision had been taken, or both.

In Oaxaca, no General Assembly meetings were held at the time of data collection, as they were not considered necessary and information was exchanged informally. The market's president explained the situation as follows:

“(...) informally, people are being told everything, they are informed about everything. Everyone knows the story of the woman selling bags, everyone knows the story about those offering massages. Everyone knows about the sanctions. But I did not make a General Assembly meeting. I did not consider it necessary to do that (KI 5/11)”.^{viii}

5.2.10. Trust of market vendors and consumers in the organic quality of organic products sold at the market

5.2.10.1. Market vendors' trust in the organic quality of organic products sold by their colleagues

Vendors were asked to indicate their trust in that organic products sold by other vendors at the market were organic. For this purpose, a 7-point ordinal scale was used, with the following options: *no trust at all*, *very low*, *low*, *regular*, *high*, *very high* and *complete trust*.

The mean evaluation was 4.33, indicating a *high* level of trust (4 = *high*). The option *no trust at all* and the option *very low trust* were not chosen by any survey respondent. Almost one quarter (23.3%) indicated *complete trust* in that organic products sold by other vendors were organic. Similarly, one quarter indicated *low trust* (3.3%) or *regular trust* (21.7%). 75% stated that they had *high*, *very high* or *complete trust*.

In Chapingo and Tlaxcala the mean was a bit lower than the mean for the total sample. In Chapingo it was 4.05, in Tlaxcala 4.20. In Oaxaca, it was higher than the mean for the total sample, with 4.7 (Figure 33).

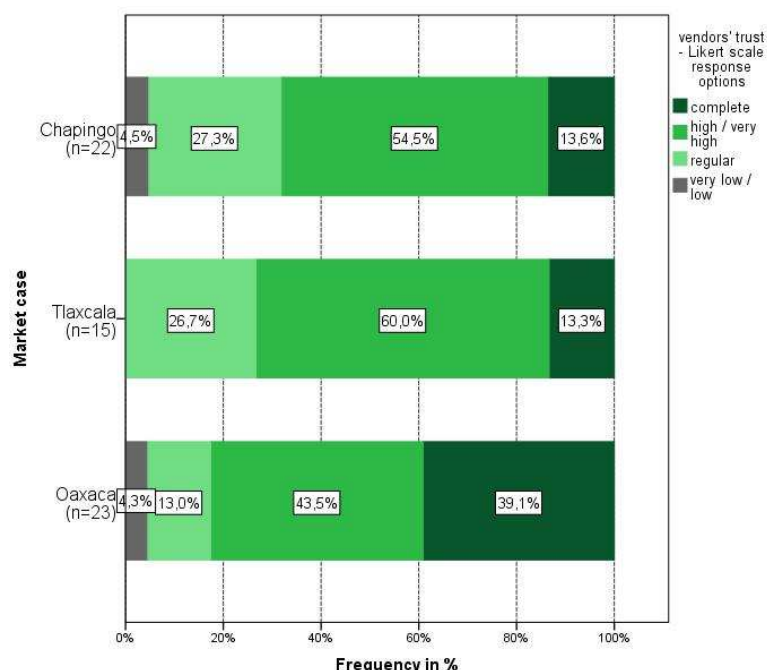


Figure 33: Vendor survey participants' trust in that organic products sold by other vendors are organic (n=60, 100%=n within market case)

While in Oaxaca 39.1% of respondents indicated *complete trust*, in Chapingo and Tlaxcala only 13% did so. In Oaxaca, 17.3% of respondents indicated only *low*, *very low* or *regular* trust. In Chapingo this was the case for one third of respondents (31.8%), in Tlaxcala for slightly more than one fourth (26.7%). Differences between the markets were tested using Kruskal-Wallis-H test, they were not statistically significant (Kruskal-Wallis-H test, exact $p=0.154$, $n=60$).

Results in Chapingo may have been caused by the situation among market vendors at the time of data collection (chapter 4.2.1). Some survey participants and key informants stated that they had high trust in products sold by members of “*their group*” but that they did not know and had considerable doubts about the products sold by other vendors. Besides, some vendors stressed that they had high levels of trust in vendors whose production units they had visited but that they could not say the same for those vendors whose production units they had not visited.

Factors related to vendors' trust in the organic quality of organic products sold by their colleagues

For testing the hypothesis that “***vendors who participate in the certification committee show higher levels of self-reported trust in that organic products sold by other market vendors are organic (H3a)***”, Mann-Whitney-U test and Kolmogorov-Smirnov test were used. It was tested if there was a difference for the dependent variable “*trust in that organic products sold by other market vendors are organic*” between the two groups “*had participated in the certification committee*” and “*had not participated in the certification committee*”. Vendors who had participated in the certification committee showed the higher mean rank, suggesting that they indicated a higher level of trust. However, the difference was not statistically significant ($U=392.5$, exact $p=0.389$; Kolmogorov-Smirnov $Z=0.452$, exact $p=0.712$; $n=60$).

For testing the hypothesis that “***vendors who participate in peer review visits to other vendors' production or processing units show higher levels of self-reported trust in that organic products sold by other market vendors are organic (H3b)***”, the proceeding was the same as for testing hypothesis H3a. The difference was neither statistically significant ($U=0.409$, exact $p=1$; Kolmogorov-Smirnov $Z=0.257$, exact $p=0.941$; $n=60$), the mean rank was almost equal.

5.2.10.2. Consumers' trust in the organic quality of organic products sold at the market

Consumers were asked to indicate their trust in that organic products sold at the market were organic, using the same 7-point ordinal scale as for vendors with the following response options: *no trust at all*, *very low*, *low*, *regular*, *high*, *very high* and *complete trust*.

The mean for the entire sample was 4.05 ($n=60$). The option “*no trust at all*” wasn't chosen by any consumer and two respondents indicated *low* or *very low levels of trust*. One quarter (25%) reported *regular* trust. Sixty percent of respondents stated that their trust was *high* or *very high*, 11.7% that they had *complete* trust ($n=60$).

The mean in Chapingo was 4.2 and thus slightly higher than the total mean. In Tlaxcala, it was 3.89. In Oaxaca, it was 4.05. In Chapingo and in Oaxaca, around 75% of respondents indicated *high*, *very high* or *complete* trust, in Tlaxcala, it was about two thirds (Figure 34). Differences between the markets were tested using Kruskal-Wallis-H test, they were not statistically significant (Kruskal-Wallis-H test, exact $p=0.559$, $n=60$).

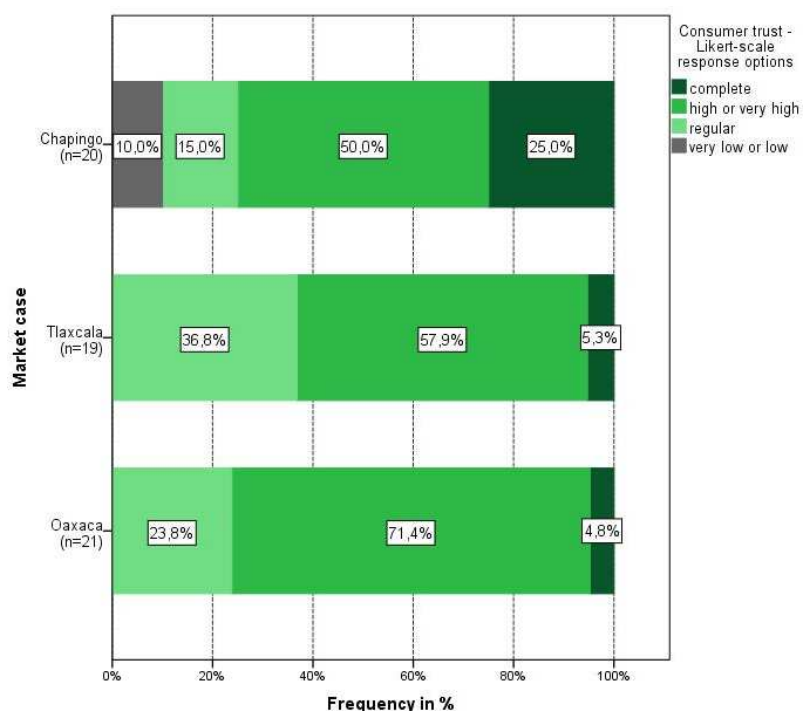


Figure 34: Consumer survey participants' trust in that organic products sold at the market are organic (n=60, 100%=n within market case)

Factors related to consumers' trust in the organic quality of organic products sold at the market

Consumers were asked how they knew that organic products purchased at the market were organic, using a closed question which included the following predefined response options:

Due to the direct relationship with producers of the market

Due to trust in the market

Due to information material offered at the market

Due to seals and/or labels

Due to participation in visits to production units / due to participation in the participatory certification process

I have doubts regarding the organic characteristics of products sold at the market

Respondents had also the option to report another factor not included in the pre-defined item set. Almost half of respondents (47.5%) stated that they knew that products sold at the market were organic *due to the direct relationship with producers of the market*, while almost one third (30.5%) stated that it was based on general *trust in the market*. One respondent (in Tlaxcala) stated that it was due to *participation in visits to production units* and one (in Chapingo) that it was due to *seals or labels*. Five respondents (8.5%) stated that they had *doubts about the organic characteristics of products sold at the market* (n=59).

Results differed between the markets, but not statistically significantly. In Tlaxcala 70.6% chose the option *due to the direct relationship with the producer* (n=17). In Chapingo, this was only the case for one third of respondents (33.3%, n=21), in Oaxaca, for 42.9% (n=21) (Chi-square test, $p=0.064$, n=59). In Chapingo and Oaxaca, 38.1% chose the option *trust in the market*. In Tlaxcala, it was only 11.8% (Chi-squared test, $p=0.138$, n=59).

However, consumers generally considered certification as important for trusting markets' producers and their products. Consumers were asked to indicate the importance of *some*

kind of organic certification in order to formally support the trust they could have in markets' producers and their products on a 6-point ordinal scale with the following response options: not at all important, very low importance, low importance, regular importance, high importance, very high importance.

The mean evaluation was 4.3 (4 = high importance, n=61). Eighty-five percent of respondents evaluated importance of some kind of certification as *high* or *very high*, 11% as regular. In Chapingo, the mean was 4.57, in Tlaxcala 4.16 and in Oaxaca 4.14. In Chapingo, all but one respondent (95.2%, n=21) evaluated the importance of some kind of organic certification as *high* or *very high*, while in Tlaxcala 84.2% did so (n=19). In Oaxaca, only 76.2% evaluated it as *high* or *very high* (n=21). In Oaxaca, almost one quarter (23.8%) evaluated the importance of some kind of organic certification as regular. Differences between the markets were not statistically significant (Kruskal-Wallis-H test, exact p=0.059, n=61).

5.3. Status quo of markets' PGS: vendors' status of certification, continuity of the participatory certification process and vendors' evaluation of the participatory certification process

Certification through the PGS in all three markets was laid down as general prerequisite to sell non-third-party-certified products at the market. According to the general functionality of participatory certification processes defined in key documents or explained by key informants (chapter 5.1), regular monitoring visits were carried out once a year in Chapingo (I) and Oaxaca and once every two years in Tlaxcala. In order to explore to what extent certification and regular monitoring of certified market vendors was put into practice, vendors who participated in the survey were asked if they were certified through the markets' PGS. Vendors who were certified, were asked when they had received the last visit to their production or processing unit. Besides, vendors were asked to evaluate the market's participatory certification process as practiced at the time of data collection.

Eighty-eight percent of vendors surveyed were certified through their market's PGS (n=60). In Chapingo, all but two vendors surveyed were certified (91%, n=22).

In Tlaxcala, except for one respondent, who had joined the market only three months before data collection was started, all survey participants were certified (93%, n=15). In case of the vendor who indicated not being certified through the PGS, the visit to the production unit had been carried out one day before the survey was conducted. Therefore, the participatory certification process had not been completed yet. As she was selling fresh fruits and the supply of fruits at the market was scarce, an exception had been made and the participatory certification process was carried out only after she already had started selling products at the market. A member of the market's certification committee explained it as follows:

"The truth is that she was lucky, because she brought seasonal fruit. Hence, conditions for her were not so strict. We just said 'bring your fruit and we will carry out the visit afterwards'. Now, we have already visited her and we will give her an answer within two months (KI 3/11)."^x

In Oaxaca, 83% of vendors surveyed were certified (n=23).

In Chapingo, less than half of respondents (47.4%) had been visited in 2015 and another third (36.8%) in 2014. Sixteen percent (15.8%) of respondents had not been visited within two years prior to data collection (n=19). One of those respondents was certified through another market's PGS and certification had been recognized (Figure 35).

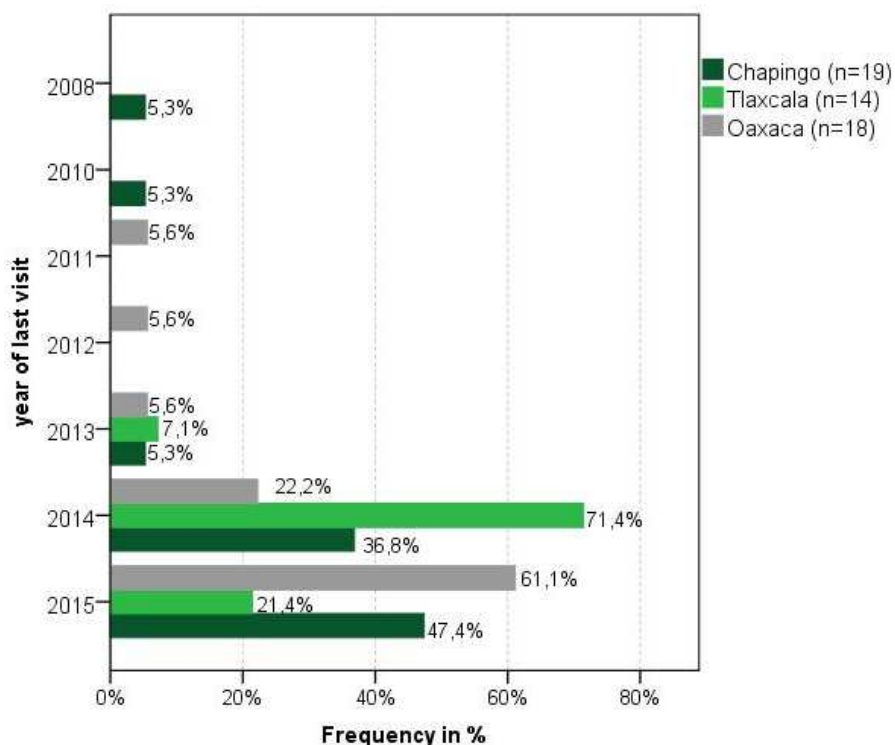


Figure 35: Year when vendor survey participants received the last visit to their production and/or processing unit(s) (n=51, 100%= n within market case)

This discontinuity of monitoring visits in Chapingo during 2014 and 2015 might reflect the situation of conflict among market vendors (chapter 4.2.1) and the fact that since the first half of 2015 the participatory certification process had not been practiced on a market level anymore.

In Tlaxcala, almost all respondents (93%) had been visited in 2014 or 2015 (n=14). One respondent had received the last visit in 2013.

In Oaxaca, the majority of respondents (61.1%) had been visited in 2015 and 83.3% had been visited in 2015 or 2014 (n=18). Three respondents had not been visited in either of the two years.

In order to explore how the status quo of the participatory certification process was perceived by vendors engaged in the PGS, survey participants were asked to evaluate the *market's participatory certification process as currently practiced* on a 5-point ordinal scale with the following response options: *very bad*, *bad*, *regular*, *good*, *very good*.

For the total sample the mean evaluation was 3.75 (3 = *regular*, 4 = *good*). Slightly more than two thirds of respondents (68.4%) evaluated the participatory certification process as *good* or *very good*, one quarter (24.6%) as *regular* and 7% as *bad* or *very bad* (n=57). Vendors' evaluation of the participatory certification process differed significantly between the three markets (Figure 36).

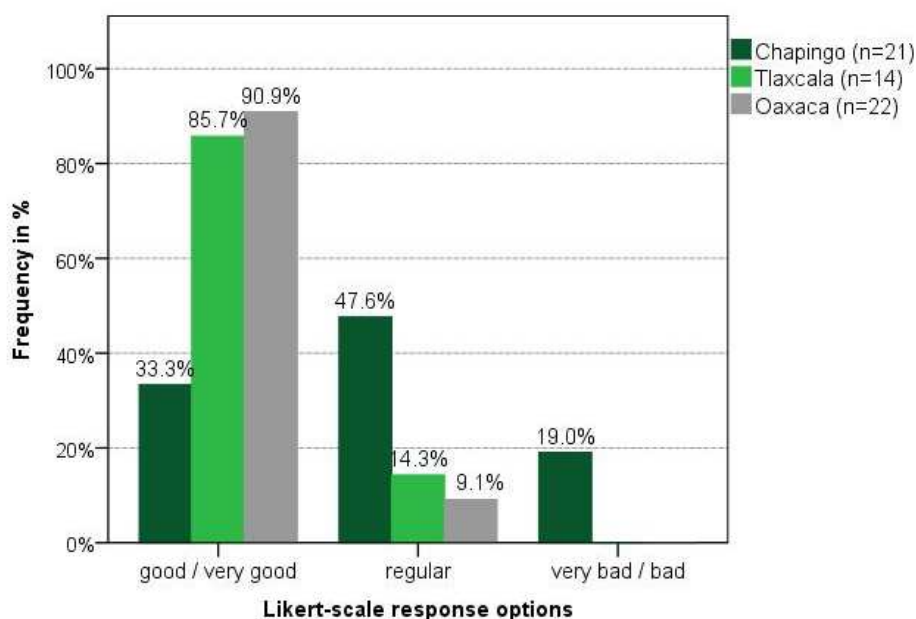


Figure 36: Vendor survey participants' evaluation of the market's participatory certification process as currently practiced (n=57, 100%=n within market case)

While in Tlaxcala and Oaxaca by far the majority of respondents evaluated the process as *good* or *very good*, in Chapingo it was only one third. One fifth of respondents in Chapingo evaluated the process as *bad* or *very bad*. In Tlaxcala and Oaxaca, these response options were not chosen by any respondent. To test differences of vendors' evaluation of the participatory certification process between the three markets for statistical significance, Kruskal-Wallis-H test and Mann-Whitney-U test were used. The Kruskal-Wallis-H test was used to test if there was a difference for the dependent variable "*evaluation of the participatory certification process as currently practiced*" between the three market groups. Results were highly significant (exact $p=0.000^{***}$, $n=57$). Mann-Whitney-U tests applied for pair-by-pair comparisons of each two markets regarding the variable "*evaluation of the participatory certification process as currently practiced*" showed that vendors' evaluation differed significantly between the market in Chapingo and the market in Tlaxcala ($U=62.5$, $Z=-3.135$, exact $p=0.002^{**}$, $n=35$) and between the market in Chapingo and the market in Oaxaca ($U=66$, $Z=-4.260$, exact $p=0.000^{***}$, $n=43$). In both cases, the mean rank was lower for vendors in Chapingo, meaning that they evaluated the participatory certification process lower.

5.4. Problems experienced by vendors' and consumers' and suggestions made for improving the market and its PGS

Vendors and consumers who participated in the survey were asked if they had experienced problems in the course of their participation at the market. Respondents who answered the question in the affirmative were asked to specify these problems in an open-ended question. Besides, respondents were asked in an open-ended question if in their opinion there were things to be improved at the market and in its PGS. Answers were coded inductively for the purpose of quantitative data analysis. In addition, vendors holding key positions in the market organization, namely the coordinator or president of each market and one member of the certification committee in Tlaxcala were asked for their perception of problems and challenges faced by the market and the PGS and potentials to improve the market and the PGS.

5.4.1. Problems experienced and improvements suggested by vendor survey participants

Forty-five percent of survey participants answered the question for problems in the affirmative, with statistically significant differences between the market in Chapingo and the market in Oaxaca (Chi-square test, $p=0.000^{***}$, $\Phi=-0.557$ $p=0.000^{***}$, $n=45$). While in Chapingo 72.7% of respondents answered in the affirmative ($n=22$), in Tlaxcala it was a slight minority of 46.7% ($n=15$) and in Oaxaca 17.4% ($n=23$).

Problems mentioned by respondents were summarized in three categories: *problems on a group level and related to interpersonal conflicts between market members*, *problems regarding the marketplace and the commercialization of products* and *problems on an individual level*. Among those respondents who answered the question for problems in the affirmative, 78% percent of respondents mentioned *problems on a group level or interpersonal conflicts with other market members*, 19% of respondents mentioned problems regarding the *marketplace or regarding commercialization of products* and 26% of respondents' *problems on an individual level* ($n=27$, open question, 100%= n for each category).

In Oaxaca all problems mentioned either regarded the marketplace and commercialization of products (mentioned by 75% of respondents, $n=4$) or were on an individual level (mentioned by 25% of respondents, $n=4$). Problems mentioned were the lack of awareness of consumers and lack of appreciation of products and consumers' unwillingness to pay the product price. One respondent stated that he was facing problems to come to the marketplace. In Chapingo and Tlaxcala the majority of respondents mentioned problems on a group level or interpersonal conflicts (Figure 37).

In Chapingo, 94% of respondents who answered the question for problems in the affirmative reported problems on a group level or interpersonal conflicts, 13% reported problems regarding the marketplace and the commercialization of products and 31% reported problems on an individual level ($n=16$).

In Tlaxcala 86% of respondents who answered the question for problems in the affirmative reported problems on a group level or interpersonal conflicts and 14% reported problems on an individual level ($n=7$).

Problems mentioned with regard to the marketplace and the commercialization of products or on an individual level in Chapingo and Tlaxcala regarded problems to meet consumer demand for products, lack of consumer demand for products, fluctuating demand depending on the season, insufficient promotion of the market and personal financial problems.

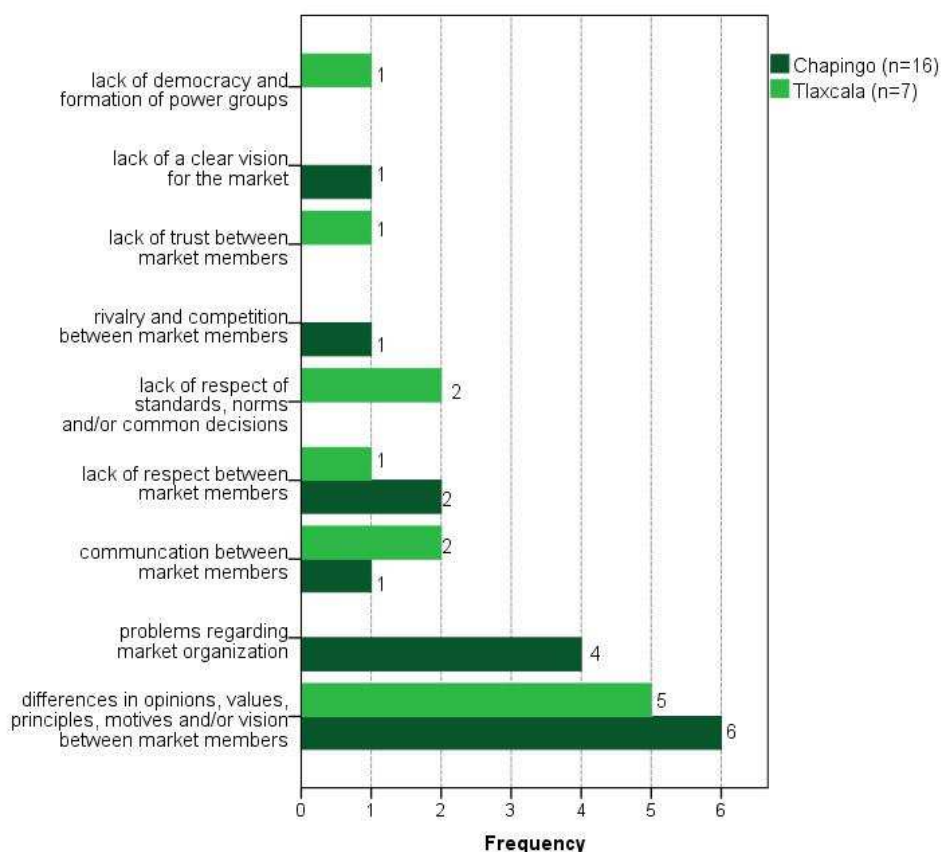


Figure 37: Problems on a group level and problems related to interpersonal conflicts between market members reported by vendor survey participants in Chapingo and Tlaxcala (absolute frequencies, open question, n=23)

Differences between market members in opinions, values, principles, motives or their respective vision was the problem most frequently mentioned by respondents. In Chapingo it was mentioned by 38% of those respondents who did indicate problems, in Tlaxcala by 71%. Some respondents who mentioned different opinions and ideas as a problem also stressed that this was a normal aspect of working as a group.

In Chapingo, problems regarding the general internal organization of the market were mentioned by one quarter (25%) of those respondents who mentioned problems (n=16).

When asked if in their opinion there were things to be improved at the market 90% of respondents answered the question in the affirmative. Five respondents stated that everything was fine and that there was nothing to be improved and one respondent stressed that he did not know whether there was something to be improved or not (n=59). In Chapingo, all respondents made suggestions for improving the market (n=22), in Tlaxcala 93% of respondents (n=15) and in Oaxaca 78% (n=23).

The aspect most frequently mentioned, by 28% of all respondents, was the relationship between market members. It was mentioned by half of all respondents in Chapingo and 40% of all respondents in Tlaxcala. In Oaxaca it was not mentioned by any respondent (Figure 38).

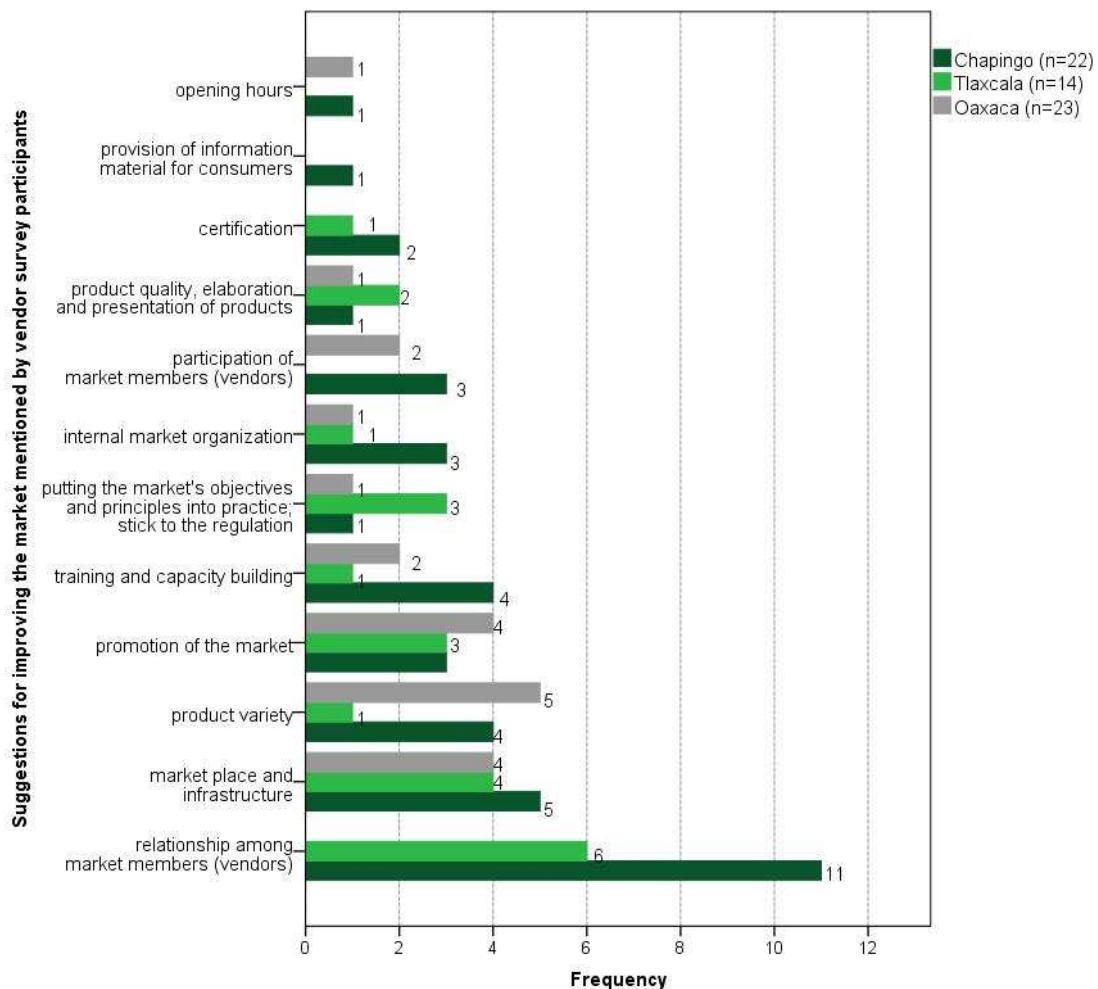


Figure 38: Suggestions for improving the market made by vendor survey participants in Chapingo, Tlaxcala and Oaxaca (absolute frequencies, open question, n=59)

This was also reflected in market vendors' evaluation of the relationship between market vendors. Survey respondents were asked to evaluate the relationship between market vendors on a 5-point ordinal scale, including the following options: *very bad*, *bad*, *regular*, *good* and *very good*. The mean for the total sample was 3.75 (3=regular, 4=good; n=59). In Chapingo it was 2.71 (n=21), in Tlaxcala it was 4 (n=15) and in Oaxaca 4.52 (n=23). While 96% of respondents in Oaxaca and 87% of respondents in Tlaxcala evaluated the relationship between market vendors as *good* or *very good*, in Chapingo 10% did so. In Chapingo, 29% of respondents evaluated the relationship between market vendors as *bad* or *very bad* and 61.5% as *regular*. Evaluations differed significantly between respondents in Chapingo and Tlaxcala (U=28, exact p=0.000***; Kolmogorov-Smirnov Z=2.282, exact p=0.000***; n=36) and respondents in Chapingo and Oaxaca (U=17.5, exact p=0.000***; Kolmogorov-Smirnov Z=2.854, exact p=0.000***; n=44).

The marketplace or the market's infrastructure as aspect to be improved was mentioned by 21.7% of all respondents, almost evenly in all three markets (n=59). In Chapingo, 23% of respondents mentioned it (n=22), in Tlaxcala 26.7% (n=14) and in Oaxaca 17.4% (n=23). Most answers were with regard to the reorganization of market stands. In Tlaxcala, some respondents also stated that seeking an own property for holding the market without being dependent on the town council or any other external actor owning the place would be important to improve the market.

Product variety turned out to be another important issue in Chapingo (18%) and Oaxaca (22%). In Chapingo, improving the offer of trainings, workshops and activities for capacity building was mentioned with equal frequency (18%).

Promotion of the market was considered by 16.7% of all respondents as important aspect to be improved. In Chapingo, it was mentioned by 13.6%, in Tlaxcala by one fifth of all respondents and in Oaxaca by 17.4%. In Tlaxcala, implementing the market's objectives and principles and sticking to the market's regulation was mentioned with equal frequency (13.6%).

When asked if in their opinion there were things to be improved regarding the market's certification process, 73.3% of respondents answered the question in the affirmative. Twelve respondents (20%) stated that there was nothing to improve, four respondents (6.7%) stated that they did not know whether there was something that could be improved or not (n=60). In Chapingo, 82.8% of respondents made suggestions for improvement (n=22), in Tlaxcala 93.3% (n=15) and in Oaxaca a slight majority of 52.2% (n=23).

Activities for capacity building, workshops and training were the factor most frequently mentioned. It was mentioned by one fifth of all respondents (n=60) (Figure 39). Answers summarized within this category concerned training and capacity building for market members in general, but also explicit training for those market members who participated in the certification committee, in order to make sure that those actors who participated in the certification committee had required skills and knowledge to perform tasks and responsibilities of the committee.

In Chapingo, this was mentioned by 27.3% of respondents (n=22), in Tlaxcala by one third (n=15). In Oaxaca, only one respondent mentioned it (n=23).

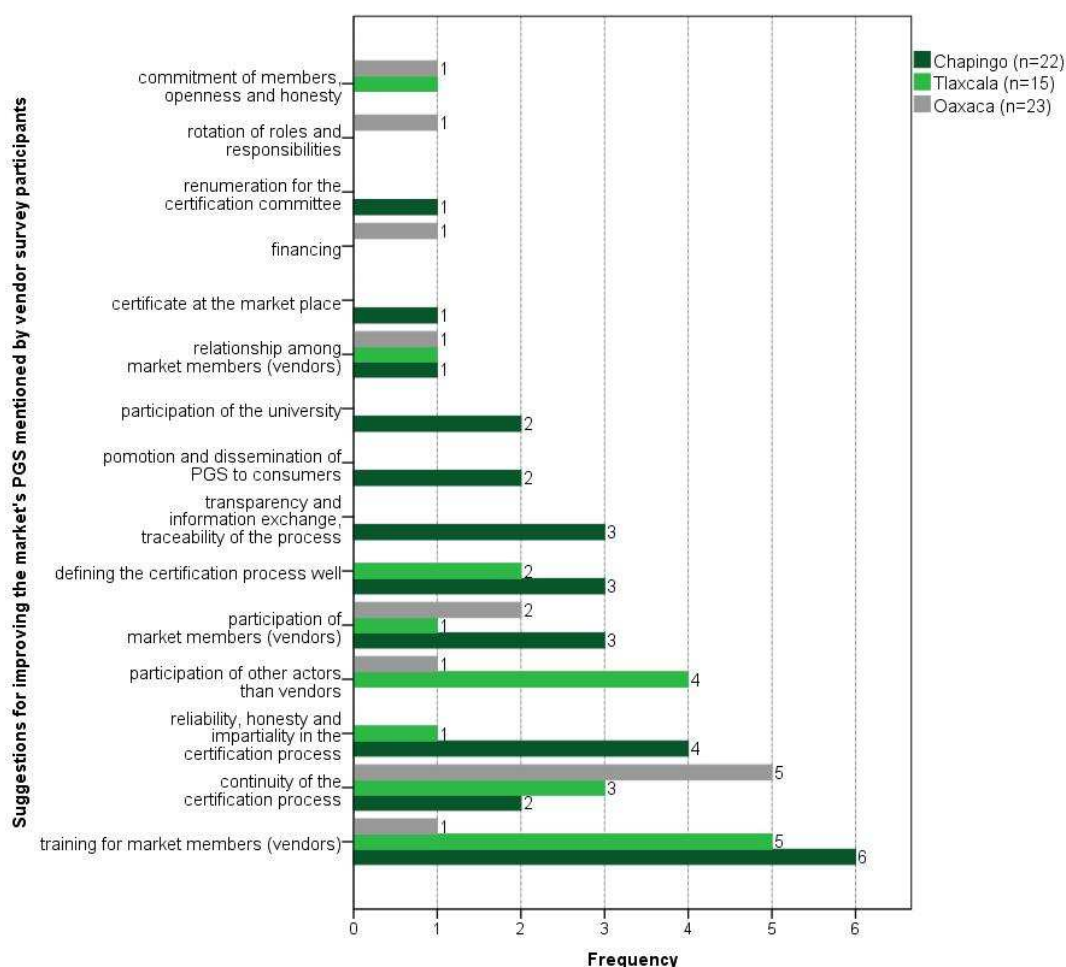


Figure 39: Suggestions for improving the market's PGS mentioned by vendor survey participants in Chapingo, Tlaxcala and Oaxaca (absolute frequencies, open question, n=60)

The second most frequently mentioned aspect for the total sample was the continuity of the participatory certification process (16.7%). Answers in this category referred to a higher frequency of certification visits and a more continuous and serious implementation of the participatory certification process. This was mentioned by slightly more than one fifth of respondents in Oaxaca (21.7%), one fifth of respondents in Tlaxcala and 9.1% of vendors surveyed in Chapingo.

In Chapingo, another 18.2% of respondents mentioned aspects related to the reliability of, and honesty and impartiality in the participatory certification process, mainly referring to the fact that all vendors visited should be treated equally in the participatory certification process, based on defined standards and regardless of friendship or personal preferences between market members. Besides, participation of more market vendors in the participatory certification process, a clear definition and outline of the participatory certification process and improvement of the documentation of the participatory certification process as well as transparency and information exchange were mentioned by three respondents (13.6%) each.

One aspect considered important by one fourth of respondents in Tlaxcala (26.7%), was the participation of other actors than market vendors. Actors mentioned were consumers and other stakeholders such as a university. Besides, a clear definition and outline of the participatory certification process was mentioned by two respondents.

In Oaxaca, participation of more market vendors was also mentioned by two respondents.

5.4.2. Problems experienced and improvements suggested by consumer survey participants

Only five consumers surveyed (8.2%) answered the question for problems experienced in the course of their participation at the market in the affirmative (n=61). Four respondents were consumers at the market in Chapingo, one in Tlaxcala. Problems mentioned each twice in Chapingo were a lack of harmony and respect among market members and occasional fights between market members and a lack of product quality. The respondent in Tlaxcala complained about the markets' location.

Suggestions for improvement were made by 77% of consumers. Fourteen percent stated that there was nothing to improve and 9% that they did not know whether there were things that could be improved or not (n=54) (Figure 40). In Chapingo, suggestions for improvement were made by 71% of respondents (n=21), in Tlaxcala by 94% (n=17) and in Oaxaca by 69% (n=54).

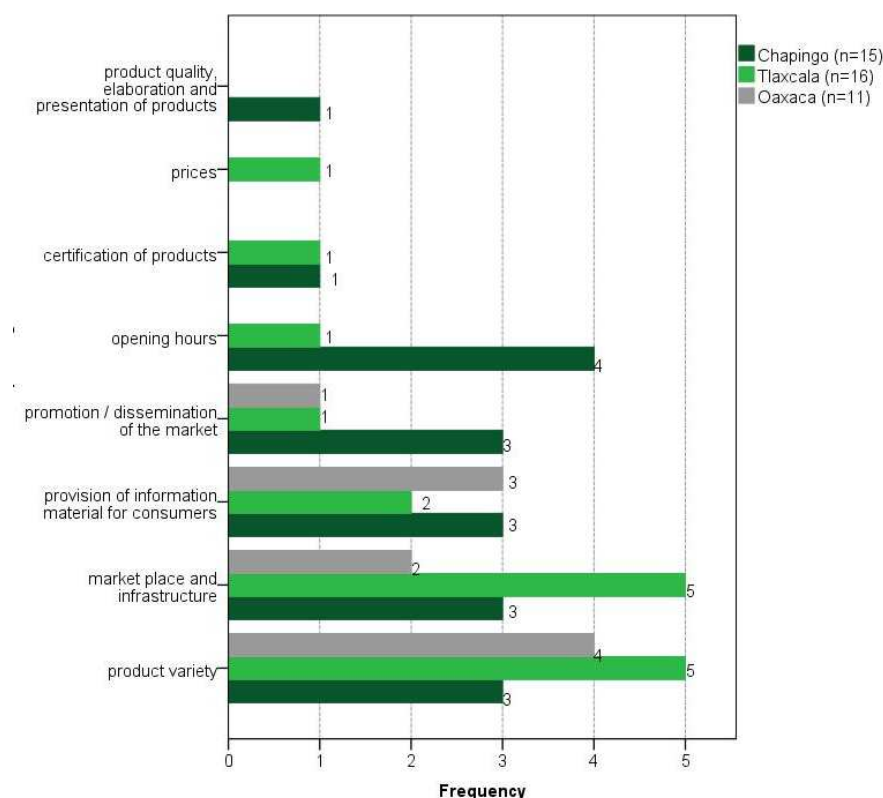


Figure 40: Suggestions for improving the market made by consumer survey participants in Chapingo, Tlaxcala and Oaxaca (absolute frequencies, open question, n=42)

Increasing the variety of products sold at the market was the suggestion most frequently made, by one fifth (19.7%) of respondents. Suggestions for improvement regarding the marketplace and the market infrastructure, such as a better organization of market stands was mentioned by 16.4% of all consumers surveyed. Besides, 13.1% of all consumers surveyed mentioned the provision of information material about the characteristics of products sold at the market and about organic agriculture at the marketplace as something that should be improved.

Of those 15 survey respondents who had heard about PGS, three (21.4%)– one in each market- made suggestions for improving the market's PGS. The respondent in Chapingo stressed that it would be necessary to provide reports about products at the marketplace. In

Tlaxcala the respondent stressed that more interest and participation of all actors concerned was needed. The consumer in Oaxaca suggested a certificate for the marketplace.

5.4.3. Problems and challenges of the market and its PGS and potentials for improvement perceived by market vendors in key positions

Vendors holding key positions in the market organization and in the market's PGS, notably the market president in Chapingo (I) and Oaxaca and the market coordinator as well as one member of the certification committee in Tlaxcala were asked in semi-structured and informal interviews for their perception of problems and challenges the market and its PGS were currently facing and for potentials to improve the market, its PGS and the certification process (Table 25). In addition, key informants were asked for key factors for the PGS to function on the long run (Table 26).

Table 25: Current problems and challenges of the market and its PGS and potentials for improving the market and its PGS reported by key informants in Chapingo, Tlaxcala and Oaxaca (source: KI 1/I1, KI 2/I1, KI 3/I1, KI 5/I1)

CHAPINGO	TLAXCALA	OAXACA
Current problems and challenges		
<ul style="list-style-type: none"> • Differences in ideas and opinions between market members, conflicts of ideas between market members • Unwillingness of some market members to compromise and to accept others' opinions • splitting of the market collective into two groups • Saturated marketplace – no space available for new market stands - as factor inhibiting market's further growth and development 	<ul style="list-style-type: none"> • Differences in ideas and opinions between market members • Resistance of some market members to comply with the market regulation • Resistance of some market members to participate in workshops and activities for capacity building • As a member of the certification committee, the conflict of interest caused by being a friend and "an inspector" at the same time • Dependence on the municipality with regard to the marketplace, risk that municipality withdraws the place causes constant uncertainty regarding the market's future 	<ul style="list-style-type: none"> • Lack of awareness and commitment of some market members • Lack of consumer awareness • Lack of interest of market members to participate in the PGS • Number of cases of non-compliance of market members and the necessity to sanction cases of non-compliance, problems with colleagues arising from implementing sanctions • Lack of parking space for consumers • Lack of demand for certain products • Lack of sufficient training for market members to participate in the certification committee
Potentials for improvement		
<ul style="list-style-type: none"> • Attitude of market members is an essential factor and has to improve • Promotion of PGS to market consumers (e.g.: publish information about participatory certification process and steps to join the market on a big sheet at the marketplace) • External fund would be very needed • Product presentation • Further education and training about commercialization and marketing • reorganization of stands at the marketplace and improvement of the decoration 	<ul style="list-style-type: none"> • Legal constitution of the market, for example as civil association; would also be necessary and important for accessing governmental funds • Strengthen social processes among market members; achieve that members do not only participate for economic dimension of selling their products at the market • Get an own property for holding the market in order to guarantee stability and continuity of the market • Improve image of the market 	<ul style="list-style-type: none"> • Develop a written manual for the PGS which outlines the participatory certification process in writing • Really implement consequences for non-compliance • Raise awareness of market members • Raise awareness of consumers • Increase variety of products sold at the market

Problems mentioned by Chapingo's market president to some extent reflected survey participants' perception and the prevailing situation among market members at the time of data collection. He also emphasized that having different ideas and opinions was something normal but that problems arose because some market members were not willing compromise and to accept situations in which the majority of market members would not share their opinion. Instead, they would try to assert themselves against the rest, which caused problems. He also suggested that this might had been one factor that had caused the splitting of the group (KI 1/I1).

In Tlaxcala, similarly differences in ideas and opinions were mentioned by both key informants. This aspect was also the one most frequently mentioned by survey participants. However, key informants also emphasized that this was something normal, but that they were trying to solve disagreements:

“Look, sometimes, within the market it is like within families, right? Within families nobody is perfect, there will always be little details, but we try to resolve them in a peaceful and consistent way, right? (...) (KI 2/I1).”^x

The second key informant emphasized a constant process of reflection as positive aspect resulting from these disagreements:

“Another problem, sometimes, ... no look, among us, everything is very good, among all of us, we all get along very well. But there are always different opinions at some point, right? As everywhere. Hence, this is where all of a sudden you can... I do not know... sometimes it is like saying, well, I do not agree, but, nevertheless, it has to be done. And it is something beautiful because it makes you reflect upon things (KI 3/I1).”^{xi}

Another important issue mentioned by Tlaxcala's market coordinator was the dependency on the municipality with regard to the marketplace. When founding the market, it had been held on a square next to the square it was held at the time of data collection, until the owner of the square one day decided to withdraw it. Hence, market members moved to the other square, owned by the municipality. The threat that the municipality could also withdraw this permission made the future of the market uncertain.

This is something you also have to face. When you least expect it they will say: ‘this space will be used for another purpose’ (...). This is really something; we are always with this ... it is a threat. We are always with this uncertainty. But well, we hope that this won't happen because (...) (KI 2/I1).”^{xii}

Why from her point of view, one of the key aspects for the market to improve and for fostering stability of the whole project was to get an own space for the market in the future. A space owned by market members (KI 2/I1).

Another key informant, member of the certification committee, mentioned market members' resistance to comply with the market regulation and to participate in activities for capacity building as a problem and further emphasized the conflict between being a friend but having to perform the role of the certification committee during visits, which sometimes caused problems.

“If you arrive for doing the visit and you see that something is not correct, you are not in the role of the friend anymore, right? You have to carry out your work, and this work is certification (KI 3/I1).”^{xiii}

In Oaxaca, lacking consumer awareness was mentioned as a problem by the market's president, something that was almost the only problem mentioned by those 17.4% of market vendors who answered the question for problems in the affirmative. The market's president additionally stressed that lack of demand for certain products was a problem. Consequently, for many products which were already sold at the market new operators who applied for selling these products were not admitted to join the market anymore. He also stated that missing awareness of market members and missing interest to participate in the certification committee was a problem and made the sharing of responsibilities and regular rotation of positions difficult. The lack of training needed to participate in the certification committee was another factor which made it difficult to involve more market members in the participatory certification process.

With regard to potentials for improving the market and its PGS and key factors for the PGS to function on the long run, Chapingo's market president mentioned the attitude of market members and congruency as one basic aspect to be improved, again, reflecting the

prevailing situation and survey respondents' perception. Besides, he stressed that access to some external financial fund would be necessary and that more participation of market members was needed. However, in this context, he mentioned remuneration of the certification committee as one aspect that might help the PGS to function well, as opportunity costs arising from participating in the certification committee sometimes made it difficult for market members to participate in the certification committee:

"(..) I think that those of the certification committee have to be provided with conditions needed, which is, for example their expenses, and I do not know, I would like to see that perhaps they receive some payment, right? Because sometimes they lose a whole day, and unfortunately sometimes it is people whose economy is not abundant and they have to work, right? But sometimes if they go and certify colleague this means that they can't go to work or do things for their own needs, this is why I think that this could be a solution (..) (KI 1/I1).^{xiv}

Table 26: Key factors needed for the PGS to function on the long run, stated by key informants in Chapingo, Tlaxcala and Oaxaca (source: KI 1/I1, KI 2/I1, KI 3/I1, KI 5/I1)

CHAPINGO	TLAXCALA	OAXACA
Key factors for PGS to function on the long run		
<ul style="list-style-type: none"> • Provide mechanism for members of the certification committee to cover their costs and to compensate opportunity costs of carrying out the work of the certification committee – e.g. remunerate them • Congruency in what people claim to do and what they are doing in order to avoid problems and conflicts during visits 	<ul style="list-style-type: none"> • Requires a lot of organization and work from everyone involved • Collaboration with some academic institution • Advocacy to change the national regulation regarding rules and requirements for certification committees to be legally recognized 	<ul style="list-style-type: none"> • Having a written manual for PGS which outlines the participatory certification process in writing for creating continuity of the participatory certification process • Implementation of sanctions for non-compliance • Awareness of all actors engaged

The issue of voluntarily donated time needed for the PGS to really function was also mentioned by key informants in Tlaxcala. One member of the certification committee stressed that in order for the PGS to function well a lot of time and organization from all actors involved was needed. In relation to the certification committee's work at the time of data collection she mentioned time needed for carrying out the task of certification as a factor influencing the continuity of the process:

"it [the participatory certification process] is not that continuous because the certification work is also...not complex but it requires a lot of time. Hence, if we fully dedicate ourselves to certifying, we ourselves can't produce anymore (...)(KI 3/I1).^{xv}

She also mentioned the time needed for training and the feeling of losing time when participating in workshops and trainings, perceived by market members, as one reason why market members refused to participate in these activities. Another aspect was collaboration of some academic institution in the participatory certification process for making the process more reliable. Participation of other actors than vendors was also suggested by four survey participants.

The market coordinator, apart from seeking an own place and achieving the legal constitution of the market in order to be able to access governmental funds, mentioned market members' attitudes and motives to participate in the project as essential aspect:

"For that the market improves in the future? The most important thing is to achieve that all of us who form the market do not only come for the economic part, in other words, for selling our products, but that we try to strengthen social processes at the same time. For me, this is crucial. It's the most valuable part of everything here (KI 2/I1).^{xvi}

Besides, she mentioned the national guidelines and the requirements for seeking accreditation in relation to key factors for PGS to function and emphasized difficulties in fulfilling accreditation requirements.

“(...) within the law about certification there is a part which regulates that participatory certification can exist. But we also have to depend on the government, right? For example, (...) they are regulating the part about participatory certification, without having the slightest idea what it is all about, because they are not those who are working in the field, they are not those who really know the work we are doing (...) and you have to comply with the standards they set. And this is really complicated. But we are fighting for advocating (...). This is something we also have to strengthen here within the market, political advocacy (KI 2/I1).”^{xvii}

Potentials for improvement and key factors mentioned by Oaxaca's president were a written definition of the participatory certification process, the implementation of sanctions for non-compliance and the fostering of awareness among market members and consumers.

“to have a written manual and to sanction! And (...) everything comes with awareness! (KI 5/I1).”^{xviii}

He further emphasized the importance of defining the participatory certification process in writing for the long-term continuity of the PGS and the decentralization of the process and related responsibilities:

“In order to work correctly, we have to lay the foundations. At the moment, we are hardly in the phase of planning it, planning to develop a certification manual. For that at the time when [the president of the certification committee] cannot be here, the certification work continues anyway. For that if I am not here, if the Directive Board is not here, the same process is being continued, for that the same procedures are being continued (KI 5/I1).”^{xix}

6. Discussion

6.1. Organizational market structures and the functionality of the participatory certification process

GÁLVEZ ET AL. (2015) describe in their report on six Mexican local organic markets with PGS organizational structures implemented for organizing the market and the participatory certification process. According to these findings, all markets analyzed had a General Assembly where all market members and, in some cases, also other engaged stakeholders participated. They had an organizational subunit responsible for general organizational and administrative issues of the market as well as an organizational subunit responsible for the participatory certification process. Besides, they had put up other organizational subunits responsible for carrying out different activities, for example the organization of trainings and educational activities. These subunits and activities differed between initiatives analyzed (GÁLVEZ ET AL., 2015). ESCALONA ET AL. (2008) report local organic markets to make decisions in meetings of a General Assembly, formed by producers and consumers, who organize operational aspects of the market by means of different committees. Results for the three markets analyzed for this thesis are in-line with these findings, also with regard to the commonalities and differences between organizational market structures. However, in all three markets analyzed, market vendors showed to be the only actor group engaged in the organization of the market and the participatory certification process (chapter 5.1). In all markets analyzed by GÁLVEZ ET AL. (2015), the certification committee – sometimes composed of various organizational subunits – was operating at the center of the PGS and responsible for carrying out the participatory certification process. This was also reported by NELSON ET AL. (2010) and ESCALONA (2009). Results from the three markets studied for this thesis are in-line with these findings. In many of the PGS experiences reported by GÁLVEZ ET AL. (2015), consumers, academics or technicians were participating in the certification committee or in the market organization, apart from market members. NELSON ET AL. (2010) and ESCALONA (2009) also suggest certification committees to be formed by market vendors, consumers and other stakeholders and NELSON ET AL. (2010) report a certification committee formed by market members and consumers alike, with fundamental participation of university staff for Chapingo's organic market (NELSON ET AL., 2010). According to information and data analyzed for this thesis, this was not the case for the three markets studied at the time of data collection, although all three markets had been founded or supported by other stakeholders (chapter 4.2). In the case of Chapingo, this was only the case until February 2016.

Other actors eventually played a role with regard to market vendors' participation in events outside the market, the provision of a marketplace or the provision of trainings and activities for capacity building for market vendors. This has also been reported by REYES GÓMEZ (2010) for several Mexican local organic markets. Besides, *the Network* most definitely had played a role in all three markets at some point in their history and in the case of Chapingo, some actors affiliated with the university most definitely played a role to some extent, also after withdrawing their collaboration and before February 2016. However, based on the data basis available for conducting the analysis for this thesis and with regard to the organization of the market and the participatory certification system, no actors other than market members were directly engaged during the period of data collection. In Tlaxcala, participation of consumers and researchers in the certification committee was intended by market members but could not be realized yet. Difficulties in achieving engagement of various stakeholders in the certification committee have been reported by NELSON (2012) for several Mexican PGS initiatives. In Oaxaca, consumer participation was something that was explicitly not intended, as the PGS was perceived as an *"internal control system of the market"*. This seems contradictory to the PGS concept (BOUAGNIMBECK, 2014; MAY, 2008). However, it is in-line with examples of Mexican markets, where the process of developing a PGS stopped at an

intermediate stage, resulting in the formation of a technical committee without actively including consumers, described by ESCALONA (2009). The fact that, according to ESCALONA (2009) the “original” market, the market studied in Oaxaca developed from had implemented a certification system similar to that of an ICS and that, for developing the PGS of the “new” market, market members had been supported and trained by a technician from a third-party certifier, gives some evidence for how and why the system may have come into place as practiced at the time of data collection.

The kind of collective activities, organized by the market collective in Chapingo and Tlaxcala in addition to the certification and common commercialization of products as part of the PGS (chapter 5.1.1 and 5.1.2) are in-line with what has been reported by BOUAGNIMBECK (2014) for several PGS initiatives around the world. Many of them showed to organize social processes going beyond quality assurance of products (BOUAGNIMBECK, 2014). It also confirms findings of GÁLVEZ ET AL. (2015) and the broader dimension of PGS as quality assurance systems that are based on a wider commitment to consumers and society suggested by VELLEDA CALDAS AND SACCO DOS ANJOS (2014). Besides, following TORREMOCHA (2012B) these activities (workshops and trainings for vendors, workshops for consumers, festivities, a common loans fund) may be regarded as “*emerging activities*”, typical for many PGS. Organizational structures in Oaxaca on the other side seemed to be designed exclusively for carrying out activities related to product commercialization and certification.

Based on data available, decision-making authority for the final certification decision only in Oaxaca, and under the new regulation in Chapingo (II) rested with the committee for participatory certification, as suggested by NELSON ET AL. (2010). GÁLVEZ ET AL (2015) also report decision-making authority assigned to either the certification committee or another organizational sub-unit such as the market coordination. Studies on PGS experiences on a global scale, published by BOUAGNIMBECK (2014), IFOAM (2008), IFOAM (2013) and TORREMOCHA (2012A) also show that in the majority of cases decision-making authority for the final certification decision was assigned to one organizational entity, also in cases the General Assembly was defined as the highest decision-making authority of the collective of farmers. However, in Tlaxcala and Chapingo (I), the certification category was assigned by the certification committee, but the final decision, according to key informants and key documents, ought to be taken by all market members in the General Assembly. In Chapingo (I), there was evidence that the decision-making authority had been changed to the General Assembly only recently and that this change was seen controversially by several market members. It was also discussed controversially by market members and university staff when decision-making authority for the new certification scheme was defined.

6.2. Markets' PGS and the IFOAM PGS framework

According to IFOAM, PGS are based on a **common vision** embraced by all engaged stakeholders, meaning that stakeholders “*collectively support the core principles guiding the PGS initiative*” (BOUAGNIMBECK, 2014 P.10)”. **Values and principles**, documented through norms and standards, a charter or a manual for the operation of the PGS have been suggested as an expression of this vision (BOUAGNIMBECK, 2014). Besides, it is argued that the vision often refers to different goals, which are determined by the respective local context and thus can range from compliance with defined standards, the promotion of organic or agro-ecological production systems, to the improvement of farmers' livelihoods, community development or the development of local short supply chains (BOUAGNIMBECK, 2014; MAY, 2008). VELLEDA CALDAS AND SACCO DOS ANJOS (2014) argue that in contrast to third-party certification PGS do not have a purely commercial character but strongly embrace social and symbolic aspects and are based on different values, such as social integration, cooperation and a wider commitment to consumers and society in general. PÉREZ CASTILLO (2009) and NELSON ET AL. (2010) argue that Mexican local organic markets aim to be more than just a

place for selling and purchasing products and that markets often target goals that go beyond the assurance of certain product characteristics (NELSON ET AL., 2010; PÉREZ CASTILLO, 2009). The vision, values and principles of the three markets analyzed did also show to target more than quality assurance (chapter 5.2.1). On the other side, a written definition of the market's vision was still work in progress in the case of Oaxaca. To what extent the vision, values and principles were “shared” by market members could not be analyzed within the scope of this thesis.

According to literature, **standards and norms** used as reference point to measure compliance are usually either developed by the actors engaged in PGS initiatives or selected from already existing standards (BOUAGNIMBECK, 2014; MAY, 2008). In the case of the three markets studied, the national guidelines for organic production were used according to key informants and/or key documents. Under the new PGS scheme in Chapingo (II) other already existing standards would be adapted. As suggested by BOUAGNIMBECK (2014), the broader dimension of market's vision was also expressed in additional standards defined, for example for non-food products. Exceptions made for some market vendors seemed to underline the importance of social and market-related aspects for deciding on whether vendors were admitted to the market or not (chapter 5.2.2).

As **mechanisms to verify operators' compliance** with applied production standards used in PGS, evaluation sheets, documentation for describing farming activities (e.g. farm management plans), peer review visits, regular meetings for knowledge and capacity building, manuals of the system's operation and the sharing of responsibilities have been suggested, amongst others (BOUAGNIMBECK, 2014; MAY, 2008). In the Mexican context, NELSON ET AL. (2010) report questionnaires to be filled out before the visit to an operators' production or processing unit(s) in order to specify and describe production processes, a log on daily farm activities, a log on sales as well as a farm map and a checklist used during the visit. These mechanisms were partly reported by key informants or mentioned in key documents of case study markets, with differing degrees and form of application between markets (chapter 5.2.3). Farm management plans and farm records were only explicitly mentioned under Chapingo's new PGS scheme (II). As farm management plans and farm records are also required for achieving legal recognition as PGS before the national competent authority (SAGARPA, 2013) they seem to be documents specifically relevant in the Mexican context.

According to IFOAM (2007), MAY (2008) and BOUAGNIMBECK (2014), **clearly defined consequences for non-compliance** are an essential element of PGS. BOUAGNIMBECK (2014) argues that these consequences shall be documented and made public, MAY (2008) also suggests that whatever the sanctions are, they have to be documented. However, apart from the new certification scheme in Chapingo (II), consequences for non-compliance or sanctions were not defined in writing in the three markets studied (chapter 5.2.3). This confirms findings of NELSON (2012), who reports that the issue of consequences for non-compliance had not been resolved within markets of *the Network* at the time. According to the author, the aim had been to create a system that would secure vendors compliance with standards without having to expel anyone from the market. However, a solution for how to design the system in order to achieve this goal had not been found yet (NELSON, 2012). Similar reasons for not imposing sanctions on market vendors, namely that vendors should not be expelled, have been reported by NIGH AND GONZÁLEZ CABAÑAS (2015) for a PGS initiative in Chiapas (Mexico). According to the author, the aim in this initiative was to promote production and consumption of healthy products and the conversion towards agro-ecological production systems. This was also expressed in reasons reported for not imposing sanctions in Tlaxcala and those sanctions, which were reported by key informants. Following VAN BEUNINGEN AND KNORRINGA (2009), who distinguish between “*minimum requirement*” and “*improvement or progress standards*” this proceeding may be regarded as representing a type of improvement or progress standard (VAN BEUNINGEN AND KNORRINGA, 2009). Following BOZA MARTÍNEZ (2013), KÄLLANDER (2008), MAY (2008) and IFOAM (2007), this

proceeding may also be regarded as expression of fostering of extension and learning processes as part of the certification process as one key element of PGS. This proceeding can also be regarded as a confirmation of what has been argued by COSCARELLO AND RODRÍGUEZ-LABAJOS (2015), namely that PGS do not aim to control producers but rather foster their inclusion into agro-ecological production, and findings of ANDRADE (2015) who, based on his study on PGS in Ecuador stresses that PGS as quality assurance mechanisms which are related to an empowering rationale are much more *“promotional than punitive (ANDRADE, 2015 P.48)”* and *“[b]ecoming agro-ecological producers is understood as a path instead of an arrival point (ANDRADE, 2015 P.48)”*. However, the author also points out that if PGS exclusively focus on the dimension of empowerment, this may bear the risk of jeopardizing the achievement of organic production quality. He concludes that, even if fostering empowerment of farmers and the process of conversion to organic or agro-ecological production may be the main focus, controls are needed in order to guarantee that organic or agro-ecological production is carried out properly (ANDRADE, 2015).

In Tlaxcala, key informants also reported avoidance of problems with colleagues as a reason for not implementing sanctions and in Oaxaca, similar reasons were mentioned as well. In Chapingo (I) those consequences which had been defined were not implemented. This seems to be in-line with findings of BELLANTE (2016), who found market members of a Mexican PGS initiative organized without the participation of other actor groups to consider self-enforcement of rules difficult and potentially burdensome for the relationship amongst market members.

DABBERT ET AL. (2012) conclude in their report on certification systems in organic food and farming, based on an analysis of sanctions imposed by European third-party certification bodies and control authorities that *“even without fines a situation can be imagined where a large proportion of organic farmers complies with organic standards (DABBERT ET AL., 2012 P.33)”*. However, they further argue that *“fines can facilitate standard enforcement and reduce corresponding social costs (DABBERT ET AL., 2012 P.33)”* and stress that non-compliance with organic regulations has the potential of jeopardizing consumers' trust.

Concerning the question of how to achieve operators' compliance with defined standards and factors which potentially can influence operators' behavior with regard to compliance or non-compliance with set standards, what has been argued by DABBERT ET AL. (2012) about the risk of non-compliances in the organic sector seems relevant, although their report exclusively focuses on non-compliances and sanctions in the system of third-party certification. Based on economics of crime, authors define three factors determining non-compliance of organic operators: the economic profit operators obtain from non-compliance, the probability that they are caught and implemented consequences for non-compliance (DABBERT ET AL., 2012 P.26, CIT. BECKER 1968). An operator according to this rationale is more likely to commit non-compliances, the higher the economic profit resulting from non-compliances, the lower the chance to get caught and the lower the consequences for non-compliances in case he gets caught are. Thus, an operator will commit non-compliances if the benefit from non-compliances he or she is expecting is bigger than costs associated with non-compliances (DABBERT ET AL., 2012). In case of the three PGS studied, the economic profit from non-compliance may depend on the price premiums paid by consumers at the market for the respective certification category in relation to other categories or in relation to prices paid at other places where the product – not certified – could be marketed instead, in case the respective operator could not sell his or her products at the market anymore. In this context the questions if, how, at what price and given which requirements the respective operator could market his or her product as organic at other marketplaces seem relevant. Besides, the share sales at the respective market make up for in the total household economy of the operator might be an important factor. The probability that market members are caught may be determined on the one hand, by the frequency of visits carried out as part of the certification process and, on other hand – with regard to the non-compliance of selling products not certified at the market – by the existence of controls at the marketplace.

However, as outlined by ZANASI ET AL. (2009), social control and thus “informal” control mechanisms most definitely can have an important influence on the probability of non-compliances being detected as well. The costs associated with non-compliance, if detected, in the case of PGS may not only be determined by an economic fine to be paid or the economic disadvantage of not being able to sell products at the market anymore. It may also be regarded as determined by the loss of benefits obtained from being part of the market collective others than economic ones, such as trainings, learning processes, promotion of the own production or others. Besides, as outlined by ZANASI ET AL. (2009) social dynamics between market members may also play a role and may also influence operators' behavior concerning compliance. In their study on a Brazilian PGS initiative authors argue that strong social cohesion can be an important factor for fostering compliance in informal certification schemes such as PGS, as actors would fear to lose their reputation within the group by breaking the rules (ZANASI ET AL., 2009). The issue of non-compliance, actors' behavior towards it and the question of how to deal with it and how to achieve actors' compliance with standards and rules set, while still emphasizing a conversion and empowering dimension of PGS thus seems to be a very complex one. Further research could focus more on this specific topic.

It has been argued that in order to measure the functioning of the certification system in place objectively and for creating transparency of the certification system, **documentation of management systems and procedures** inherent to the PGS are essential (MAY, 2008). According to MAY (2008) the degree of documentation may vary depending on the local context and on the experience actors engaged have with PGS. Documents which, according to the author, are used by PGS initiatives are standards, a data base of members including information about the farm, records, documentation of product types and the status of certification, a manual to define the certification process and the steps to achieve certification in writing and templates which are used during peer review visits (MAY, 2008). Most of these mechanisms were also applied in the three market's studied (chapter 5.2.4). Farm management plans and farm records as documentation mechanism, also required for legal recognition (SAGARPA, 2013), were only mentioned in Chapingo (II). As expressed by key informants, complete documentation, especially with regard to farm records, was considered a major challenge for PGS initiatives in Mexico and an obstacle for achieving legal recognition. Providing sufficient documentation has also been reported by MAY (2008) and MEIRELLES (2003) as a general obstacle for PGS when striving for legal recognition in the first place. What showed to be poor in Oaxaca and Chapingo (I) was a clear written outline of the participatory certification process. This outline has been suggested as a key element of PGS initiatives (BOUAGNIMBECK, 2014; MAY, 2008) and as an important factor for the successful functioning of PGS initiatives (NELSON ET AL., 2010 CIT. ECOVIDA 2004). Besides, according to MAY (2008), a lack of a written outline can depict a factor inhibiting **transparency** of the PGS. As argued, transparency in PGS means that all actors engaged have a basic understanding of how the certification system works or have the possibility to find out how it works. The existence of a base-line document defining the system's functionality in writing is promoted as an important mechanism for guaranteeing this possibility (BOUAGNIMBECK, 2014; MAY, 2008). In Mexico, a clear written outline of the participatory certification process is also required in order to achieve official recognition before the national competent authority (SAGARPA, 2013). BELLANTE (2016), NELSON ET AL. (2008) and NELSON ET AL. (2010) report the dependence on voluntarily donated time, especially in PGS initiatives which do not have support from stakeholders other than market members as one main obstacle for developing a clear outline of the certification process. Findings from Oaxaca showed to confirm these findings. Whether or not market members were aware of how the participatory certification process functioned, could not be analyzed within the scope of this thesis. Consequently, no clear statement can be made on whether the lack of a clear outline did indeed have a negative impact on market members' awareness of the system's functioning or not. Furthermore, as observed during data collection and stressed by key informants and market members, informal communication at the marketplace and market members' experience in

the PGS seemed to play an important role for creating awareness of the system. Besides, the General Assembly seemed to play an important role for the communication of decisions. However, further analysis of collected data and further research would be needed in order to explore the issue of transparency in PGS initiatives more profoundly.

BOUAGNIMBECK (2014) and MAY (2008) further suggest some kind of **label** for giving evidence of a product's status at the marketplace as a key feature of PGS initiatives. Product labels in the market for organic food are considered a “*key communication tool* (DABBERT ET AL., 2012 P.19)” in order to inform consumers that the labelled product has been produced according to the respective product standard which underlies the label (DABBERT ET AL., 2012). MAY (2008), building on PGS experiences from South Africa, New Zealand, Brazil, France, India and the US reports labels to often carry the PGS logo as well as a code for identifying the producer. NELSON (2012) also argues a noticeable seal to be a paramount component of successful PGS initiatives. In none of the three markets studied, PGS labels in the form of product labels were used. However, according to what has been discussed by key informants during data collection for this thesis, the legal endorsement of PGS in the national framework and therewith related accreditation requirements for markets' certification committees have made issuance of a label difficult for PGS initiatives, which are not officially recognized by the national competent authority. In two markets mechanisms for marking the respective stand, as suggested by BOUAGNIMBECK (2014) were used (chapter 5.2.4). Furthermore, the need for certification and for labels as mechanism to distinguish organic products at the marketplace is usually argued to stem from the fact that the organic quality of a product and the production process this quality results from, are credence attributes which cannot be controlled neither at the marketplace nor after purchasing and consuming the product (PADEL ET AL., 2010 CIT. LIPPERT 2005, 2010 CIT. NELSON, 1970, DARBY & KARNY, 1973). Hence, labels, seals or logos are perceived as mechanisms which allow for identifying products which possess these attributes at the marketplace and as mechanisms which create credibility and trust in that products are produced in compliance with applied standards (VELLEDA CALDAS ET AL., 2014B CIT. LOZANO CABEDO 2009). As products certified through the three markets' PGS were sold directly to the consumer at the respective market, direct communication between producers and consumers may decrease the necessity of product labels as a tool for communicating product characteristics to consumers (PHILLIPS AND PETERSON, 2007). Furthermore, information costs for consumers to check organic product quality, for which it has been argued that they would be too high without certification and respective labelling mechanisms (DABBERT ET AL., 2012), or the effort to collect a sufficient amount of information for them to create reliability and certainty, may be considered lower in the case of local organic markets than for organic products purchased in supermarkets and not directly from the producer. The direct relationship between producers and consumers may have served for creating credibility and trust in organic product quality and mitigate the absence of labels. This was likewise indicated by results for factors consumer survey participants reported as guaranteeing them organic quality of organic products sold at the market (direct relationship with producers as the main factor, chapter 5.2.10.2 and chapter 6.2.3).

Certification through PGS is often argued to include more than the verification of compliance and to not be solely focused on issuing a verdict on the status of producers' and processors' compliance as an outcome of the process (ANDRADE, 2015; TORREMOCHA, 2012A; VELLEDA CALDAS ET AL., 2014A). Participation of actors engaged in the participatory certification process is seen as an important factor for generating knowledge of all actors engaged and fostering experience exchange among them (BOUAGNIMBECK, 2014). **Learning** as part of the certification process, has been stipulated as a fundamental element of PGS by BOUAGNIMBECK (2014), BOZA MARTÍNEZ (2013), IFOAM (2007), MAY (2008), NELSON ET AL (2010) and TORREMOCHA (2012A), amongst others. According to what is suggested by IFOAM based on several case studies, learning and experience exchange is practiced as part of the certification process. Besides, educational activities, learning and knowledge

exchange in the form of explicit training for actors engaged in PGS play an important role in many PGS. Findings from a comparative case study on eight best practice examples of PGS initiatives compiled by BOUAGNIMBECK (2014) also showed that sharing of information, knowledge on production techniques and traditional knowledge was, apart from collective marketing, the only social process identified in all eight PGS initiatives analyzed. Technical and administrative support with regard to organic and/or agro-ecological production as an important characteristic of PGS and a paramount benefit of being engaged in PGS for many farmers has also been stressed by ANDRADE (2015). Besides, it has been argued that in order for PGS to further develop, a sound knowledge about PGS and organic farming of actors engaged is of utmost importance (BOUAGNIMBECK, 2014) and that, to foster this knowledge, the extent to which PGS initiatives are able to offer workshops and activities for training and capacity building is a key factor (BOUAGNIMBECK, 2014; ESCALONA, 2009; NELSON, 2012). Authors further suggest that a close direct collaboration with institutions such as NGOs and universities can be of great importance for offering these workshops and trainings (BOUAGNIMBECK, 2014; ESCALONA, 2009; NELSON, 2012). Technical support and training in organic practices offered by external actors was also identified as one main factor for the success of Argentinian street fairs organized by non-certified organic peasant farmers by CÁCERES (2005). Findings from this study do confirm these suggestions with regard to learning and experience exchange as part of the participatory certification process and to the importance of external institutions for offering trainings and workshops. Besides, from survey respondents' subjective perception, these activities showed to be important for their learning about organic farming and PGS and respondents' self-reported level of knowledge about PGS was significantly higher for those members who had received such activities. The importance of learning as part of the participatory certification process was also underlined by survey respondents' evaluation of the importance of participation in the participatory certification process for their personal learning (chapter 5.2.6). Knowledge acquisition and knowledge sharing were also among the three reasons most frequently mentioned for participating in visits and in the certification committee by those survey respondents who had participated (chapter 5.2.8.3 and chapter 6.2.1). Thus, results of this study do suggest learning and knowledge sharing among actors engaged to be an important element of the three PGS studied. However, survey questions did only refer to vendors' knowledge, and vendors' learning about organic farming and PGS in general. Further research could focus in on processes of learning practiced within PGS initiatives in more detail, using a more differentiating approach, for example for identifying topics for which vendors' learning through activities organized in the PGS and their participation in the certification process is specifically high or how knowledge acquisition and knowledge sharing takes place within the market collective apart from the certification process.

As argued by MAY (2008), PGS intend to be non-hierarchical and to be based on a democratic structure within which actors engaged share responsibilities within the PGS (MAY, 2008). **Horizontality** in PGS according to BOUAGNIMBECK (2014) is created through the sharing of power and responsibilities among all members. According to information provided by key informants and defined in key documents, market's organizational structures, electoral mechanism and principles of rotation seemed to allow for putting this principle into practice (chapter 5.2.7). IFOAM (2007) further suggests all actors to have the same capacity to verify organic product quality as an important aspect of horizontality. However, NELSON (2012) found that the lack of training can be an obstacle for achieving sufficient levels of participation in PGS. The importance of training and education of all market members for avoiding the concentration of knowledge and to thus create the precondition for the sharing of responsibilities expressed in Tlaxcala as well as findings from Oaxaca, where lack of sufficient training and education seemed to be a factor making rotation and sharing of responsibilities difficult, are in-line with these findings.

6.2.1. Participation of market vendors in the certification committee and in peer review visits

Participation of key actors engaged in the PGS is one of the core elements of PGS (IFOAM, 2007; MAY, 2008; BOUAGNIMBECK, 2014; KÄLLANDER, 2008) as certification systems that are argued to be organized more horizontally, based on the participation of the very producers certified and relationships that connect producers, consumers and advisors instead of verification carried out by a technician in a vertically organized system (VELLEDA CALDAS ET AL., 2014A, 2014A CIT. SANTOS 2005). It has been argued that participation is one prerequisite for creating credibility of the production quality in PGS (IFOAM, 2007). Besides, as grassroots movement organized by actors engaged throughout the value-chain of organic products, PGS are highly dependent on participation of their members (FONSECA, 2004; MAY, 2008; BOUAGNIMBECK, 2014). Furthermore, the attempt to reduce direct certification costs for operators make PGS highly dependent on voluntarily donated time and participation of their members (FONSECA, 2004; NELSON ET AL., 2010). In her study of ten Mexican PGS initiatives, NELSON (2012) found 46% of survey participants volunteering in their market's committee for participatory certification at the time data for her study was collected. Results of surveys conducted for this study thus showed slightly higher levels of participation (54% in the certification committee and 65% in peer review visits in the course of their participation at the market). However, considering only those vendors who reported last participation in 2015, in order to make results more comparable, levels of participation showed to be much lower (Figure 24 and Figure 25). On the other side, results showed a higher degree of participation as reported in a study compiled by KATTO-ANDRIGHETTO (2013) on Mexican PGS initiatives affiliated with the national market Network, which reports 45% of market members having volunteered in a certification committee. Levels of participation were also higher than those reported by GÓMEZ (2013) who found 11% of respondents having participated in the course of their participation in the market and 8.3% participating at the time of data collection. Compared to these findings, levels of participation in the three markets studied thus can be considered high. However, results also showed differences between markets and revealed participation in peer review visits being concentrated to those vendors who participated in the market's certification committee in Oaxaca (chapter 5.2.8.1).

High levels of education of actors engaged in PGS have been suggested as playing a paramount role for successfully implementing a technically and organizationally sophisticated PGS by ZANASI ET AL. (2009). ESCALONA (2009) found market members of Mexican PGS initiatives with high levels of education to engage more actively in the organization of market activities. Based on these findings it was hypothesized, that market members who participated in the certification committee show higher levels of formal education. A statistically significant relationship could be identified between market members highest level of formal education completed and their participation in the certification committee (chapter 5.2.8.2), suggesting that market members educational background may somehow be related to their degree of participation. However, NELSON (2012) based on the finding that market members did refrain from participating in the market's PGS due to perceiving themselves as not competent enough, although having a university degree, suggests that a university degree as such may not be a factor facilitating actors' participation but rather their field of studies being related to agriculture. As there is evidence that several respondents in Chapingo were graduates from the University of Chapingo, this has to be kept in mind when assessing results. Besides, levels of formal education differed significantly between respondents in Chapingo and Tlaxcala. However, there was a tendency for a positive relationship between levels of formal education and participation in the certification committee in all three markets. Still, results at most can give a first indication and more research on the topic would be necessary.

NELSON (2012) and BOUAGNIMBECK (2014) argue, that market members' concerns regarding their own expertise and their perception of not having sufficient knowledge acted as a

hindering factor for them to participate in the certification committee. Results of this study showed that vendors who participated in the certification committee showed to have significantly higher self-assessed knowledge about PGS than vendors who had not participated (chapter 5.2.8.2). On the other side, no significant difference could be detected for survey respondents' knowledge about organic farming. For market members' participation in peer review visits, no statistically significant differences could be identified regarding their knowledge about organic farming or PGS. This seems to be consistent with what has been reported by NELSON ET AL. (2010), who explicitly emphasize that members in the certification committee in Chapingo had differing degrees of knowledge about organic production techniques and organic standards (NELSON ET AL., 2010).

Besides, NELSON ET AL. (2010) suggest participation in visits as the best way for developing certification skills. Learning showed to be an important reason for participating for survey respondents in this study and was evaluated as important by survey respondents for them to learn about organic farming and PGS. Hence, higher levels of knowledge of those respondents who had participated in the certification committee may also be considered an outcome of their participation. On the other side, market members' perception of not having enough knowledge as a hindering factor for their participation was partly confirmed in results for respondents' reasons for not participating in the certification committee (chapter 5.2.8.3). However, more detailed analysis and more research on the topic would be needed in order to make clearer statements on how actors' knowledge and their perception of their knowledge may relate to their degree of participation.

Other factors inhibiting actor participation in the PGS suggested by BELLANTE (2016), BOUAGNIMBECK (2014), FONSECA (2004), GÓMEZ (2013), KÄLLANDER (2008), MAY (2008), NELSON (2012) and NELSON ET AL. (2010) are far distances to the marketplace, the lack of transportation and lack of time to dedicate working in the PGS. Reasons for not participating in the certification committee and in peer review visits, indicated by survey respondents to some extent are in-line with these suggestions (chapter 5.2.8.3). On the other side, for the total survey sample, the reason most frequently mentioned for not participating in the certification committee was that vendors had not been nominated (35%). Besides, 14% reported that they had been holding another position within the market organization as a reason. Not being invited was also the reason most frequently mentioned for not participating in peer review visits by survey respondents in Chapingo (60%). Whether the fact that actors had not been nominated was a normal dynamic within electoral and rotational processes within the market or some specific factors were causing vendors not being invited could not be determined.

Reasons to participate in the certification committee most frequently mentioned by vendors were to guarantee compliance, provide certainty about production processes or to create trust and transparency, learning, as well as helping their colleagues to improve. For visits, similarly, the reason most frequently mentioned was learning, followed by sharing own knowledge and helping colleagues (chapter 5.2.8.3). This confirms the importance of knowledge and experience exchange, stipulated as part of PGS by authors like BOUAGNIMBECK (2014), MAY (2008), IFOAM (2007) and BOZA MARTÍNEZ (2013). It also mirrors vendors' evaluation of participation in the participatory certification process for their personal learning about organic farming and PGS (chapter 5.2.6.2).

6.2.2. The role of consumers in case study markets' PGS

According to GÓMEZ (2013), in order to be really trustworthy, PGS do require active participation of producers and consumers. The author further argues that, the participation of consumers in the PGS can contribute to strengthening the certification process, if consumers do have a notion of organic production (GÓMEZ, 2013). Active consumer participation is considered a fundamental part of PGS and has been promoted as such by several authors (BOUAGNIMBECK, 2014; IFOAM, 2007; MAY, 2008; KÄLLANDER, 2008). Consumer participation is considered a precondition to create credibility of the production quality (IFOAM, 2007). Of all consumers surveyed for this thesis, only one quarter (24.6%) reported to have heard about PGS. This is in-line with findings of NELSON (2012), who report the majority of consumers surveyed in three Mexican PGS initiatives never having heard about PGS and only 30% of consumers being able to define what PGS. It is also in-line with findings of ESCALONA (2009), who found 25% of consumers surveyed in five Mexican PGS initiatives having heard about PGS and 9% knowing what PGS is. Low levels of PGS awareness of consumers who do purchase products certified through a PGS are also consistent with findings of SACCHI ET AL. (2015) from a study on consumers' purchasing behavior regarding PGS-certified products in Brazil. Authors found 64% of respondents purchasing products certified through a PGS labelling program, although 68% of respondents had never heard about the program and related methods of certification (SACCHI ET AL., 2015).

Consumers' awareness of the PGS differed between markets (43% in Chapingo, 21% in Tlaxcala, 9.1% in Oaxaca reported having heard about PGS). Results differed significantly between the market in Chapingo and the market in Oaxaca (chapter 5.2.8.4). Possible explanations for the differences between markets regarding consumers' awareness of the PGS could be the fact that in Oaxaca the PGS was considered as a means of “*internal control*” of the market and the lack of mechanisms for distinguishing products or stands at the marketplace, when compared to Chapingo and Tlaxcala (chapter 5.2.4). Besides, in Chapingo, workshops and events had been held during the market's opening hours, occasionally treating the topic of PGS. Besides, information material had been distributed at the market in the past. Furthermore, according to NELSON ET AL. (2010) consumers' participation had been fostered in the past. However, clear evidence for factors influencing consumers' awareness of the PGS cannot be given based on the findings of this study.

Although not analyzed in the results part of this thesis, products consumers surveyed attended the market for may indicate additional factors which potentially caused the differences between markets. ESCALONA ET AL. (2008) recommend in their study on five Mexican PGS initiatives a classification of market consumers into regular consumers (“*consumidores fuertes o hábiles*”), weak consumers (“*consumidores débiles o circunstanciales*”) and unaware consumers (“*consumidores inconscientes*”). According to the authors, regular consumers are those who attend the market every week, who predominantly consume organic products and who actively participate at the market. Weak consumers are described as consumers who know about organic production, who consider organic products good for their health, who attend the market three times a month or every two weeks but who are not very committed to the project and do not perceive their market attendance as a direct support of producers. Finally, unaware consumers are described as consumers who are not informed about organic production, who may know that products sold at the market are organic but who do not have more information about the topic, who attend the market sporadically and attend the market primarily for consuming prepared meals (e.g. attend the market for having lunch) (ESCALONA ET AL., 2008). Of those consumers who were surveyed for this thesis, about 43% attended the market every week, with similar results between markets. While almost 60% in Chapingo and 80% in Oaxaca stated that they purchased organic products in other places as well, only 36.8% did so in Tlaxcala (chapter 4.6.2). When asked which products they purchased most frequently at the market, 58% of survey respondents in Tlaxcala mentioned exclusively prepared meals, 26% in Oaxaca mentioned exclusively prepared meals or crafts. In Chapingo, no survey respondent did so. Hence,

according to the classification offered by ESCALONA ET AL. (2008), in Tlaxcala and Oaxaca more survey respondents may be considered as “*unaware*” consumers.

Although consumers purchased PGS certified products without being aware of the PGS, findings of SACCHI ET AL. (2015) suggest that raising consumer awareness and knowledge about PGS could be of interest for market vendors. Authors found consumers with higher self-reported levels of knowledge on PGS to be more likely to purchase PGS certified organic products and hence suggest that consumers’ awareness and knowledge on PGS can have an influence on their purchasing behavior (SACCHI ET AL., 2015). Besides, within a broader context of the Mexican local market for organic products, ZAMILPA PAREDES (2014) found experts of the Mexican organic sector to consider a lack of information on the consumer side a main factor which inhibits consumption of organic products. Raising consumer awareness of organic labels as a factor for increasing consumers’ probability to purchase products has also been suggested by several authors for organic food labels in general (SANGKUMCHALIANG AND HUANG, 2012 CIT. NDUNGU 2006, KRYSTALLIS AND CHRYSOHOIDIS 2005). Besides, consumers’ knowledge about organic food is considered to be positively related to their attitudes towards organic food products (SANGKUMCHALIANG AND HUANG, 2012 CIT. BRIZ AND WARD 2009, GIL AND SOLER 2006). However, as has been outlined by SANGKUMCHALIANG AND HUANG (2012) as well, consumers’ purchasing behavior is a complex topic of study, as it is not only influenced by their knowledge about and attitudes towards organic food but by emotions, experiences, actions, prices, promotion or ideas as well. Furthermore, consumers’ purchasing behavior has a very dynamic character and is determined by demographic factors and the respective cultural context (SANGKUMCHALIANG AND HUANG, 2012 CIT. KRYSTALLIS AND CHRYSOHOIDIS 2005, TSAKIRIDOU ET AL. 2008, FOTOPOULOS AND KRYSTALLIS 2002, ESSOUSSI AND ZAHAF 2008).

Consumers’ awareness of the PGS could also be relevant for enhancing consumers’ participation in the PGS. However, of those consumers who had heard about PGS, only 20% had participated in peer review visits, representing 5% of all consumers surveyed. No consumer surveyed had participated in the certification committee. Low levels of consumer participation are in-line with findings of NELSON (2012) and ESCALONA (2009), but also with what has been reported by other authors for PGS initiatives around the world (FONSECA, 2004; KÄLLANDER, 2008; KATTO-ANDRIGHETTO, 2013). ESCALONA (2009) reports 3% of consumers surveyed to have participated in peer review visits, NELSON (2012) however, reports that 11% of consumers surveyed were participating in a certification committee, depicting higher levels of consumer participation than for survey respondents of this study. As main difficulties for participating in the PGS, expressed by consumers, NELSON (2012) reports time constraints. Besides, consumers not perceiving themselves as competent enough for participating in the certification process (NELSON, 2012). Time constraints have also been suggested by FONSECA (2004), NELSON ET AL. (2010), KÄLLANDER (2008) and MAY (2008) as the main obstacle for enhancing consumer participation, although without quantifiable empiric evidence. Findings of the study conducted for this thesis to some extent give an indication for time as an important hindering factor for consumer participation (chapter 5.2.8.4). However, the most frequently reason indicated by consumers was the fact that they did not know that they could participate. It was indicated by 29% of respondents as the reason for not participating in the certification committee and by 33% as the reason for not participating in peer review visits. Results thus may suggest that further promoting and disseminating the PGS to consumers might be a first step towards enhancing consumer participation. However, further research and statistical analysis based on a bigger sample of consumers would be needed to further explore the role of consumers and how consumer participation could be further fostered. However, it cannot be assumed that, knowing about the PGS and knowing about their possibility to participate in the PGS automatically would lead to consumers participating more in the PGS. Besides, it cannot be excluded that, once being aware of the PGS and their possibility to participate, other factors, for example as reported by NELSON (2012) would not hamper their participation. Besides, ESCALONA (2009)

argues that for consumers to start to actively participate in the PGS, a qualitative change in their type of food consumption, more towards assuming the role of a prosumer instead of only attending the market for purchasing products would be needed. However, on the other side the author argues, that consumers' participation in the PGS may have the potential to contribute to this shift and foster consumers ownership of the project (ESCALONA, 2009). Hence, further promoting and disseminating the PGS and the certification work to consumers could be something to emphasize if higher levels of consumer participation is to be achieved.

Notwithstanding, perceptions made during data collection suggest that the fact that consumers reported to have never heard about the PGS or indicated to not have participated in peer review visits as part of the participatory certification process may not necessarily mean that they had never visited market vendors' production and/or processing units. Chances are that some consumers may have visited production and/or processing units – potentially influencing their trust in products sold at the market, their understanding of the system and their notion of organic farming-, but that visits were either not part of the certification process or not perceived as such by consumers. Further research should target the role of consumers in markets' PGS, with regard to more diverse forms of participation.

6.2.3. Trust of market vendors and consumers in the organic quality of organic products certified through the PGS

Trust as a key element of PGS, is defined as corresponding to the idea that “*producers can be trusted and that PGS can be an expression and verification of this trust* (BOUAGNIMBECK, 2014 P.11)”. Trust is thus often regarded as an outcome of the PGS certification system and as the very basis of it (BOZA MARTÍNEZ, 2013; IFOAM, 2007; NELSON ET AL., 2016). NELSON (2012), reports a mean evaluation of vendors' general trust in PGS of 6 on a scale from 1 to 7. Compared to these findings, vendors surveyed for this study indicated much lower trust in the organic quality of organic products sold by their colleagues, although on the scale from 0 to 6 used for this survey, respondents' mean self-reported trust indicated high levels of trust (chapter 5.2.10.1). Mistrust towards their colleagues' products was expressed by several market members during data collection in Chapingo.

Participation in the PGS has been argued to be a fundamental basis for creating credibility in the production quality in PGS (IFOAM, 2007; MAY, 2008). Based on this assertion, it was tested if there was a statistically significant difference of vendors' self-reported trust in the organic quality of organic products sold by other market vendors between those vendors who reported participation in the certification committee (H3a) and in peer review visits (H3b) and those who did not. Results did not show to be significantly different (chapter 5.2.10.1). However, it has to be kept in mind that the independent variables (*participation in the certification committee* and *participation in peer review visits*) tested were dichotomous variables and it was only distinguished between those vendors who had participated in the course of their participation at the market and those who had not, independent of when they had participated for the last time.

With regard to consumers' trust in PGS, GUTIÉRREZ-PÉREZ ET AL. (2013) report in their study on a PGS initiative in Chiapas 82% of consumers indicating *complete* trust in products sold at the market. Compared to these results, consumers surveyed showed lower levels of trust in that organic products sold at the market were organic, although on the scale from 0 to 6 used for this survey, respondents' mean self-reported trust in that organic products sold at the market were organic indicated high levels of trust (chapter 5.2.10.2). The fact that consumers showed high levels of trust although the majority of respondents had never heard about PGS is in-line with findings of NELSON (2012) and ZANASI ET AL. (2009) who argue, based on findings from their studies, that the PGS and possibly a PGS seal is hardly necessary for consumers to trust in products certified through the PGS, as consumers base their trust in the direct relationship to the producer. ESCALONA (2009) and NELSON (2012) report trust in the local marketplace as an important factor for consumers' trust as well and

argue that the direct relationship would make certification unnecessary from the perspective of consumers. Indeed, the most important factor for creating certainty that organic products purchased at the market were organic, indicated by consumers' surveyed for this thesis showed to be the direct relationship with producers (48%), followed by trust in the market (31%). However, on the other side, NELSON (2012) reports the PGS being the most important factor for their trust for 27% of consumers surveyed, which is not consistent with results from surveys conducted for this thesis.

KRIEGE-STEFFEN ET AL. (S.A.) argue that institutional trust and personal trust are two interplaying factors which influence consumers' trust in organic products. According to the authors, institutional trust is formed by personal interactions with representatives of the institutions. On the other side, institutional trust can influence whether trust is put in an individual representative of the institution or not (KRIEGE-STEFFEN ET AL., S.A. CIT. MCKNIGHT AND CHERVANY, 2001; MCKNIGHT ET AL., 2002; SEIFERT, 2001). This suggests that the two dimensions "*certainty about organic quality of organic products based on the direct relationship to producers*" and "*certainty about organic quality of organic products based on trust in the market*", offered as response options in the survey for this study are difficult to separate.

NELSON (2012) also reports that despite building their trust on the direct relationship with producers, 88% of consumers surveyed stressed that the PGS increased their trust. This may suggest that increasing consumers' awareness and understanding of PGS can have the potential to enhance their trust in the organic quality of organic products sold at the market. Consumers surveyed for this thesis evaluated the importance of some kind of certification at the market for formally supporting their trust as high as well (chapter 5.2.10.2).

However, survey respondents were exclusively asked to indicate their trust in that organic products sold at the market were organic and "organic" was not the only product category distinguished under the three PGS certification schemes.

Besides, literature on trust amongst actors engaged in cooperatives and consumers' trust in organic food (BARRAUD-DIDIE ET AL., 2012; FRIEDRICH, 2004; KRIEGE-STEFFEN ET AL., S.A.; SEIFERT, 2001) and the multi-dimensional and complex character of trust, reveals methodological limitations of how trust was assessed for this study, and the statistically tested relationship between trust and other variables, why results at the most can give first indications of factors which are potentially related to the trust of consumers and market members engaged in PGS initiatives. Taking into account what has been outlined by authors like SEIFERT (2001) and FRIEDRICH (2004), namely that trust is composed of a cognitive, a conative and an affective dimension and influenced by factors such as values, culture, information and habits, further in-depth studies would be needed in order to better explore the topic (KRIEGE-STEFFEN ET AL. CIT. SEIFERT, 2001 AND FRIEDRICH, 2004).

6.3. Status quo markets' PGS: continuity of the participatory certification process and vendor survey participants' evaluation of the process

With regard to the practical implementation of the participatory certification process, survey results did show some gaps between the participatory certification process theoretically outlined and its practical implementation. These gaps regarded the status of market vendors' certification and the continuity of monitoring visits, except for the market in Tlaxcala (chapter 5.3). Comparable findings have been presented by GÓMEZ (2013). In his study on three Mexican PGS initiatives in Veracruz, he found market members selling products with an assigned category without ever being visited (GÓMEZ, 2013). NELSON ET AL. (2010) also report problems in certifying new market members and in continuously carrying out monitoring visits as a problem at the market in Chapingo, caused by time constraints of actors responsible for the certification. Dependence on voluntarily donated time and the lack

thereof have been reported as potential challenges for the maintenance of the certification system and as reasons for a lacking continuity of the certification by NELSON ET AL. (2007) and IFOAM (2008) as well. BELLANTE (2016) reports time issues and family and work obligations as limiting factors for market members' participation and thus as limiting factors for further development and implementation of a PGS operated exclusively by market members. FONSECA (2004) argues that dependence on voluntarily donated time can be a limitation for PGS initiatives and according to BOUAGNIMBECK (2014) the reliance on voluntary labor is one of the main threats for the consistency and sustainability of PGS. However, based on results from this study, time constraints of market members could only be made out as an important factor for the continuity of the participatory certification process in the case of Tlaxcala. In the case of Chapingo, results suggest that conflicts between market members, the splitting of the group and a cease of the participatory certification process for the whole market was the predominant reason for the lack of continuity regarding monitoring visits (chapter 4.2.1 and 5.3). In Oaxaca, the market's president mentioned time constraints as an inhibiting factor for the development of a written definition of the market's vision and a PGS manual. He also stressed that a lack of market members' participation in the PGS was a problem, but not explicitly in relation to the continuity with which the process was put into practice.

Collaboration with NGOs or higher education institutions, such as a university has been suggested as one option to mitigate the dependence on time voluntarily donated by market members by several authors (BOUAGNIMBECK, 2014; ESCALONA, 2009; GÓMEZ, 2013; IFOAM, 2013; NELSON ET AL., 2008; NELSON, 2012; NELSON ET AL., 2010). In the Mexican context, GÓMEZ (2013) and NELSON ET AL. (2007) further report that several PGS initiatives, apart from the market in Chapingo have profited from support of universities or NGOs. On the other side, problems regarding the continuity of monitoring visits reported by NELSON ET AL. (2010), refer to a time when the market still had considerable support from the university in organizing and operating the PGS. This suggests that the continuity of the process wasn't carried out as theoretically outlined either, before conflicts started and before market members started to organize and operate the PGS alone. This suggests that NGOs, universities and other institutions can play an important role to mitigate the dependency on voluntarily donated time but that gaps may still be a problem.

Market members' evaluation of the participatory certification process as practiced at the time of data collection did mirror findings for the continuity of the participatory certification process in the case of Chapingo (chapter 5.3). On the other side, in the case of Oaxaca, market vendors' evaluation did not show to mirror gaps regarding the continuity of the participatory certification process. However, the continuity of the certification process and a more serious implementation of the participatory certification process was the second most frequently mentioned suggestion for improving markets' PGS for the total survey sample of vendors.

6.4. Current problems and challenges, potentials for improvement and key factors for the PGS to function

Although the issue of problems and challenges faced by PGS initiatives has been treated in literature, publications which provide quantifiable data on the problem perception of market vendors and consumers engaged in PGS initiatives to the best of my knowledge are still few. GÓMEZ (2013) reports a lack of buyers (22%) and a lack of consumer awareness (11%) as the two limitations most frequently mentioned by producers engaged in three Mexican PGS initiatives and lacking consumer awareness being considered a factor limiting further development of the market by several producers. In her study on a PGS initiative in Chiapas, BELLANTE (2016) reports similar findings and describes problems for many market vendors to sell their products at the corresponding price, as customer's price sensitiveness made it difficult to sell products at prices, which start higher above prices at other markets. Results showed that these issues were considered a problem as well in Oaxaca. However, these

problems generally showed to be problems and suggestions not that frequently mentioned by survey respondents. Raising consumer awareness was also mentioned as a suggestion for improving the market by the market president in Oaxaca (chapter 5.4.3). This is in-line with findings of ZAMILPA PAREDES (2014), who reports more promotion of organic farming and the raising of awareness on the consumer side being considered as main priorities for strengthening Mexico's domestic organic sector by key actors of the sector and a lack of information and higher prices as the two main factors inhibiting consumption of organic products. A potential risk of lack of consumer information and therewith related unwillingness to pay higher prices has been outlined by DABBERT ET AL. (2012) in their report on organic certification systems in organic farming and organic food. Lack of consumer information and information asymmetry between producers and consumers - something that is considered specifically high in the case of organic products due to the fact that the organic quality of products is a credence attribute (GIANNAKAS, 2002) - according to the authors bears the risk to result in market failure and organic products being forced out of the market. Authors argue that, if consumers are not fully informed on the characteristics of a product, they will rather be willing to pay for an average product quality they expect the product to have. Thus, the price consumers are willing to pay is lower than the price for the respective product produced at a higher quality. As high quality goods like organic products cannot be produced at the price consumers would pay for the product, these products would be forced out of the market (DABBERT ET AL., 2012).

ESCALONA (2009) reports a lack of product variety as a limiting factor for many Mexican PGS initiatives. This was partly confirmed by suggestions for improvement made by survey respondents and key informants. It was also the suggestion for improvement most frequently mentioned by consumers. Consumers' low evaluation of product variety was also reported by ESCALONA ET AL. (2008), who report more than 57% of consumers surveyed in seven Mexican local organic markets evaluating offered product variety as regular or even scarce. Authors further argue lacking product variety to be a weakness of these initiatives. They report offering products of the basic food basket to be a necessity for local organic markets expressed by consumers and suggest that a lack of product variety and markets not offering the basic food basket as a reason why some consumers do not attend the market frequently (ESCALONA ET AL., 2008). Further suggestions mentioned by consumers were an improvement of the marketplace and the market infrastructure and the provision of information material at the market (chapter 5.4.2), which seems to be a relevant aspect with regard to the role of consumers in markets' PGS at the time of data collection (chapter 6.2.2).

Another key factor for Mexican PGS initiatives and a potential challenge for local organic markets in Mexico, reported in literature, is the availability of a marketplace. BELLANTE (2016), ESCALONA (2009) and GÓMEZ (2013) emphasize the importance of the marketplace with regard to the threat of losing the place. According to the authors, this can potentially result in consumer confusion and a decrease in sales (BELLANTE, 2016; ESCALONA, 2009; GÓMEZ, 2013). According to ESCALONA (2009), the problem of uncertainty and instability regarding the marketplace is usually faced by those Mexican PGS initiatives which do not have the support of an academic or similar institution. According to the author, losing the market place bears the risk of actors abandoning the PGS initiative, if consolidation of the latter at the new place takes too much time (ESCALONA, 2009). This was confirmed by results of the study conducted for this thesis in the case of Tlaxcala, as the threat of losing the marketplace was considered as a current challenge and seeking an own property for holding the market thus regarded as an important factor for guaranteeing stability and continuity of the market in the future (chapter 5.4.3 and 5.4.1). In Oaxaca, a few months after finishing data collection market members lost the permission to hold the market at the square it had been held during data collection. Market members spent several weeks without holding the market, looking for a new marketplace for re-starting the project. The market in Chapingo, on the other side, was the only market which had been held at the same place since its inauguration.

However, the problems most frequently mentioned in Chapingo and Tlaxcala as well as the suggestions for improving the market most frequently made, were related to the differences of opinions and ideas, of values and motives between market members and the relationship, communication and respect amongst them. In Chapingo, this seemed to reflect the splitting of the market collective into two groups at the time of data collection, which was also mentioned as a problem by one key informant (chapter 5.4.3). What exactly had caused the splitting of the group could not be clarified within the period of data collection. Findings of ESCALONA (2009) and NELSON ET AL. (2010) can result in hypotheses on potential underlying reasons at most. ESCALONA (2009) found market members' attitudes and their motives to participate in the market as a factor potentially causing conflicts between market members. NELSON (2012) reports competition between market members as a factor causing distrust and suspicion between market members. NELSON ET AL. (2010) report problems with regard to the partiality of market members in the certification process, interpersonal conflicts and differences in opinions amongst members of the certification committee as an important issue within Chapingo's organic market. Authors report that "*ideals of equal participation, cooperation, horizontality and consensus building were often difficult to effectively put into practice* (NELSON ET AL., 2010 P.234)" and explain these kind of issues as typical of self-regulatory organic systems, due to actors tendency to be biased in some way (NELSON ET AL., 2010 CIT.MICHELSSEN, 2001). Besides, they suggest the fact that non-compliances and problems regarding the production of one producer has the potential to put the integrity of the whole market at risk as a reinforcing factor for market members biases in the certification process and tensions among them (NELSON ET AL., 2010). Thus it seems that a certain degree of conflicts was already manifesting during a time when the university was still participating in the market, but started to manifest and enforce only later. In this context, findings from BELLANTE (2016) seem to be relevant who found self-enforcement of rules by market members after the cease of the support of other stakeholders being a potential burden for the relationship among market members and rules being more difficult to be enforced. CÁCERES (2005), in his study on non-certified Argentinian peasant farmers organized in street fairs also concludes that the "*ability to deal with possible conflicts arising [...] within peasants' organizations* (CÁCERES, 2005 P.139)" is one of the main challenges for these farmers to be faced. On the other side, issues of conflicts or problems regarding the relationship of market members were not reflected in the problem perception of survey respondents or key informants in Oaxaca. With regard to the consequences of conflicts between market members, NELSON (2012) in her study on various PGS initiatives reports suspicion between market members caused by personal conflicts amongst them, something that to some extent showed also to be manifesting in Chapingo. ESCALONA (2009) reports PGS initiatives, where conflicts among market members resulted in the separation of the initiative.

The problem of partiality in the certification process and actors tending to be biased, reported by NELSON ET AL. (2010) was confirmed by aspects related to impartiality in and reliability of the participatory certification process reported as suggestion for improvement by some survey respondents (chapter 5.4.1). It was also reported as a challenge by one key informant in Tlaxcala (chapter 5.4.3).

BOUAGNIMBECK (2014), based on a case study conducted in eight PGS initiatives around the world, reports low levels of actors' knowledge about organic farming and a low understanding of the PGS concept as frequent challenge. This has also been reported by GÓMEZ (2013), NELSON (2012) and NELSON ET AL. (2008) for the Mexican context, in relation to the problem of low levels of participation in the certification process. NELSON (2012) in her study found interviewees to perceive themselves as not having enough knowledge for carrying out farm visits and considering university staff and professionals as the people most capable of carrying out certification tasks. The problem of market members lacking capacities for participating in the PGS was also reported in Oaxaca (chapter 5.4.3). Further activities for capacity building and training were mentioned most frequently by survey respondents as a

suggestion for improving the market and its PGS in Chapingo and Tlaxcala (chapter 5.4.1). The need for more capacity building and training was also reflected by the number of survey respondents wishing to receive more training. According to what has been argued by several authors, improving capacity building and training may be an important factor for enhancing vendors' knowledge about organic farming and PGS and for contributing to the further development of the PGS. Therefore, external actors like NGOs or universities can play an important role (BOUAGNIMBECK, 2014; CÁCERES, 2005; ESCALONA, 2009; NELSON, 2012). Following VAN BEUNINGEN AND KNORRINGA (2009), who distinguish between “*minimum requirement*” and “*improvement or progress standards*”, further training and activities for capacity building are needed, if the three PGS are considered as improvement standards, meaning that they rather foster conversion to and progress of organic production than exclusively controlling minimum requirements, in order for vendors' to really improve their farming and processing operations (VAN BEUNINGEN AND KNORRINGA, 2009).

However, with regard to capacity building and training activities NELSON ET AL. (2010) and KATTO-ANDRIGHETTI (2013) report that a lack of time of market vendors to dedicate to the process made capacity building of actors difficult. The problem perception of one key informant in Tlaxcala is in-line with these findings (chapter 5.4.3).

BELLANTE (2016) in her study, apart from the problem of time constraints in a PGS initiative exclusively organized by market members, further report differences between market members in their willingness to assume responsibilities within the market and its PGS. PGS members' capacity and willingness to participate has also been argued to be a fundamental factor for the maintenance of the system and a lack thereof a potential problem by IFOAM (2008) and NELSON ET AL. (2007). This to some extent was confirmed by the lack of awareness and commitment of market members, reported by Oaxaca's market president.

Another aspect considered important for improving the market and its PGS mentioned by Oaxaca's market president with regard to the market's PGS was to develop a written manual for the participatory certification process, in-line with what has been argued by several authors about the importance of a base-line document for PGS and problems in developing it due to time issues (chapter 6.2). The written manual was also regarded as a key factor for the PGS to function on the long run, together with the implementation of sanctions and awareness of all actors engaged.

A further challenge reported by key informants in Tlaxcala was *resistance* of some market members to comply with the regulation. Lack of respect of standards, norms and common decisions were also reported by two survey respondents and three respondents suggested a real implementation of the market's objectives and its regulation for improving the market. The market's coordinator also emphasized the strengthening of social processes and participation of market members for more than just selling products at the weekly market as something important to be improved in the future.

For the total survey sample, continuity of the participatory certification process with regard to a higher frequency of verification visits and a more continuous and serious implementation of the participatory certification process was the suggestion for improving the market's PGS reported second most frequently by survey respondents, to some extent reflecting results for the status quo of PGS implementation (chapter 6.3).

Chapingo's market president considered an external fund as something that would be important for improving the market and its PGS in the future and mentioned remuneration of members of the certification committee as an important factor for the PGS to function on the long run. In Tlaxcala, the market's coordinator stated that achieving legal constitution of the market was an important goal for the future, also for being able to access governmental funds. Securing sufficient funding has been reported as a challenge faced by many PGS initiatives by FONSECA (2004). NELSON ET AL. (2010) argue that it usually takes a long time for PGS initiatives to become self-financed. A Lack of financial resources is argued to be linked

to the lack of ability to offer activities for capacity building or problems regarding the day-to-day maintenance of the system, as well as increased dependence on voluntarily donated time. Suggestions made in Chapingo with regard to remuneration are in-line with what has been argued by BOUAGNIMBECK (2014), namely that voluntarily donated time without economic reward and involved opportunity costs can make participation of actors difficult. However, economic rewards for members of the new certification committee (Chapingo II) were not considered an option by key informants from the university. The factor of voluntarily donated time and organizational effort and work of all members for the system to function was also mentioned by key informants in Tlaxcala, confirming what has been argued by FONSECA (2004), MAY (2008), NELSON ET AL. (2010) and NELSON (2012) about PGS' high dependence on voluntarily donated time of its members. VELLEDA CALDAS AND SACCO DOS ANJOS, (2014) also report the relation between the time and effort producers engaged in PGS have to dedicate to the system's operation and the reward they get for their investment, as a problem. Authors further argue that this problem can be solved by governmental support as well as economic compensations paid by consumers (VELLEDA CALDAS AND SACCO DOS ANJOS, 2014). The fact that for 80% of respondents who participated in the survey for this thesis had other income sources apart from sales at the market and thus through the PGS and that 62% of respondents also sold their products at other places (chapter 4.6.1), suggests that the issue of opportunity costs and the relation of effort and reward might also be relevant in the context of this study.

Key informants in Tlaxcala also stressed that the collaboration with an academic institution would be needed in order to add more security to the PGS. Participation of other actors than market members in the PGS was also suggested by four survey respondents. This is in-line with findings of NELSON (2012), who found several producers engaged in PGS considering participation of people from a university as a prerequisite to trust the participatory certification process and argues this to be a contradiction to the PGS ideal. However, the importance of the participation of academic institutions in PGS initiatives, for example for offering training and workshops, collaborating with regard to the organization, didactical material or promotion, has been underlined by GÓMEZ (2013). Participation of other actors than vendors was also a suggestion for improvement frequently mentioned by survey respondents (chapter 5.4.1).

6.5. Methodological limitations and potential biases

When assessing results, the composition of the consumer survey sample has to be considered. The sample was composed of almost equally men and women, with a slight male majority (chapter 4.6.2). ESCALONA (2009) argues that the "traditional" role of women regarding the responsibility of doing groceries within households to even be manifest to some extent in alternative projects of food production and consumption. However, he also argues that this tendency is ever more changing (ESCALONA, 2009). With regard to the comparison of results to other studies, like NELSON (2012, 77% of the sample women), ESCALONA ET AL. (2008, between 62% and 85% of the sample in 3 of 5 markets studied women) and ESCALONA (2009, 68% of the sample women) the potential for biases and differences in results caused by respondents' sex have to be kept in mind.

The survey sample of market vendors was also composed of more men than women, with the highest percentage of men in Tlaxcala and a majority of women in the sample in Oaxaca (chapter 4.6.1). However, GÓMEZ (2013) and IFOAM (2013) argue that the majority of market members engaged in Mexican local organic markets are women. GÓMEZ (2013) reports that 60% of members of *the Network* were women, IFOAM (2013) reports even 70% women. GÓMEZ (2013) also argues that participation of women in the market organization and commercialization as well as the organization of different activities within the market has always been important within Mexican organic markets. On the other side NIGH AND GONZÁLEZ CABAÑAS (2015) report for a market in Guadalajara that leadership and

responsibilities regarding the organization of the market had been predominantly carried out by men, with increasing female participation during the last years. With regard to the comparison of results to other studies, like NELSON (2012, 60% of the sample women), ESCALONA (2009, 65% of the sample women) potential biases and differences in results caused by respondents' sex have to be kept in mind. As one reason for the survey sample composition, the fact that most vendors not surveyed in Tlaxcala and Oaxaca were selling prepared meals, as those vendors were usually those busiest during market days and that most vendors selling prepared meals were women, can be mentioned.

In addition, differences regarding the time spent in the three markets studied throughout my field stay may also have the potential to influence results with regard to the quantity and quality of information collected and biases. The highest number of market days was spent in Chapingo, the lowest in Oaxaca. With regard to the analysis of market's PGS results for Tlaxcala were influenced by the fact that the written regulation for the market's PGS could not be accessed. Besides, differences between markets regarding the setting vendor surveys were conducted in (chapter 4.4.1) have to be kept in mind.

With regard to consumer survey results, markets' opening hours and the time of data collection have to be considered. The market in Chapingo was held on Saturdays and the market in Oaxaca on Fridays and Saturdays. The market in Tlaxcala on the contrary was held on Fridays, from 07:00 am to 03:00 pm. Hence, consumers attending the market in the morning for doing their groceries on some occasions did not have much time to dedicate to the survey or even refused to participate due to time constraints. Those consumers who were willing to participate sometimes attended the market later during the day, for example for having lunch or breakfast there (58% of survey respondents stated that prepared meals were the products most frequently purchased at the market). Consumer survey participants in Chapingo and Oaxaca (on Saturdays) might have been more relaxed and might have had more time to dedicate to the survey, due to the fact that it was not a week day and they did not have to go to work afterwards. Attending the market in these cases often seemed to be a rather regular weekend-activity, often for the whole family.

Furthermore, as indicated in the results part of this thesis, several contradictions arose during data analysis between information laid down in key documents and information provided by key informants. Sometimes information provided by key informants was also contradictory. Clear, valid reasons for these contradictions could not be identified. In Tlaxcala and Oaxaca one reason could be the fact that market regulations had been developed several years ago and had not been updated. In Chapingo (I), contradictions could be caused by the fact that the internal regulation had never been enacted, due to conflicts.

With regard to these conflicts, it seems relevant to mention that vendor survey respondents' evaluation of certain aspects of the market in the survey (e.g. relationship between market members, trust in organic quality of organic products sold by other market vendors) may have been influenced by the fact that some survey participants evaluated variables for one part of the group and others for the whole market collective.

Moreover, in retrospect, it seems that a more iterative process of data collection and analysis directly in the field (e.g. developing data collection tools for quantitative data collection more closely based on qualitative results) could have delivered in-depth results better founded for each market. However, within the scope of this thesis, this was not a feasible approach, although survey questionnaires were revised based on first results and impressions gathered when already in the field.

Finally, potential biases caused by the fact that data collection was conducted in Spanish and the fact that this thesis was written in English, both of which are foreign languages to the researcher, have to be considered.

7. Conclusion and Outlook

As mentioned in the state of the art, IFOAM (2007) developed the PGS framework in order to facilitate the development of PGS around the world (BOUAGNIMBECK, 2014). It has been argued that elements and features defined in this framework have been developed by many PGS initiatives around the world (BOUAGNIMBECK, 2014; KÄLLANDER, 2008; MAY, 2008; TORREMOCHA, 2012A, 2012B, IFOAM, 2013, 2008A). Results of this study showed that those elements and features of the PGS framework which had been selected for analysis, were translated into practice to some extent and to differing degrees in the three PGS studied. Results revealed some gaps and potentials for improvement as well. These potentials regard more sophisticated verification and documentation mechanisms in Tlaxcala and Oaxaca and a clear written outline of the participatory certification process in Oaxaca. These elements would also be required in order to achieve legal recognition as PGS before the national competent authority (SAGARPA, 2013). In addition, a mechanism to give evidence on products' or vendors' status of certification at the marketplace can be suggested as a factor for improvement for the market in Oaxaca.

Survey results, key informants' perception and the situation at the market in Chapingo suggest that awareness, commitment, a joint understanding of the market and the PGS of all market members engaged and the relationship amongst them are important factors for the PGS to function well and to improve in the future. However, differences between markets with regard to these aspects also suggest a high context-dependency.

Results of the study in the context of literature suggest some drawbacks of PGS initiatives being organized exclusively by market vendors. These drawbacks are constraints of time to dedicate to the organization and the operation of the PGS and conflicts of interest of market members, as factors which may have a negative influence on the functioning of the PGS, its further development and the continuity of the certification process. Participation of other actor groups or collaboration with institutions such as universities or NGOs may have the potential to remediate the dependence on voluntarily donated time and thus help to increase the continuity of the participatory certification process to some extent.

Such collaboration could also be important in order to foster training and further education of market members in the future. Training and educational activities resulted to be an important factor which should be fostered in the future. Further training and educational activities, with regard to organic farming practices, the national guidelines for organic production, processing and participatory certification was wished by survey respondents and further training and capacity building was considered important in order for the PGS to improve in the future. Study results and literature suggest that improving the offer of training and educational activities could also further foster market members' participation in the market's PGS.

In-line with prior studies, consumers showed to play no active role in the organization and the operation of the three PGS. Although factors like time constraints, transport and distances may be important in the context of consumer participation, survey results suggest that a lack of awareness, either of the PGS in general or of consumers' possibility to participate in the PGS is an aspect to target if consumer participation is wished to be increased.

In the light of problems and challenges reported by key informants and survey participants and in the context of literature, raising consumer awareness and their knowledge about PGS seems to be relevant for enhancing consumers' understanding of the market project, their willingness to buy PGS certified products and their willingness to pay price premiums. A comparison of results between markets suggests that promotion activities and mechanisms used at the market to give evidence on the status of certification of products may have the potential to foster consumer awareness. From a consumer perspective, promotion of the market, the variety of products offered at the market and improvement of the marketplace and the market infrastructure showed to be important aspects to target.

In the case of Chapingo, it may be expected that re-started collaboration with the university will be able to help to increase the continuity and the reliability of the participatory certification process and to consolidate the market's PGS. Official recognition as PGS before the national competent authority may be achieved soon. However, fostering the relationship among market members and rebuilding trust amongst them seems to be equally important for the sustainability of the project.

Results of this study further confirmed the availability of a marketplace as a central element for the stability and sustainability of Mexican PGS initiatives.

For the future of markets and their PGS, the further proceeding of the national competent authority regarding the implementation of the national legislation for organic production and accreditation requirements for PGS can be expected to be a relevant factor.

Given the time frame for preparing this thesis, some aspects of those key elements and features which had been selected for the study had to be excluded from analysis. Several questions such as how the lack of a written outline of the certification process really affects actors' awareness of the system's functioning, could not be treated. Exploring to what extent actors engaged had a common understanding of the PGS system was another aspect that had to be excluded from analysis. Further research may focus on these elements in order to explore their relevance for the sustainability of PGS initiatives. Besides, actors' understanding of the market and the PGS and their motivations to engage in the PGS, in relation to their participation in the PGS and group dynamics among PGS members can be suggested as topic for further research. Furthermore, a more differentiating approach to explore processes of learning practiced in PGS initiatives could be applied in further studies. The building of trust amongst market vendors and of consumers' trust in producers and in the quality of products sold at the market and more diverse forms of participation are further topics which can be suggested for future studies.

The research approach applied for this thesis could be replicated in other PGS initiatives in more different local contexts, in order to get a greater variety of data. This could also produce more knowledge on the topic by comparing results for different cases, for example regarding certain elements and features implemented and their potential effects on the functioning of the PGS.

Besides, quantitative studies with a bigger sample size would be useful in order to allow for more profound statistical analysis. Especially in the case of consumers, bigger sample sizes seem to bear a lot of potential for further research, as the population of consumers within one initiative is much bigger than the population of market vendors and bigger sample sizes within one PGS initiative are thus more feasible.

8. Summary

Participatory Guarantee Systems (PGS) are organic guarantee systems which are organized on a local level with the participation of producers, consumers and other stakeholders such as traders, NGOs or universities in the certification process. During the last years PGS proliferated rapidly throughout the world. They are promoted as alternatives to third-party certification for local markets of organic food which can provide an opportunity to overcome some of the limitations third-party certification poses, especially for small-scale farmers. Besides, it has been argued that PGS are more than a system to guarantee the organic quality of products and, that they can be tools to facilitate community development, farmers' empowerment and the promotion of organic farming (BOZA MARTÍNEZ, 2013; IFOAM, 2007; TORREMOCHA, 2012A, 2012B; BOUAGNIMBECK, 2014; MAY, 2008). PGS are promoted as guarantee systems which explicitly foster processes of learning and experience exchange as part of the certification process and which thus can be regarded as mechanisms to support the conversion to organic production and to promote technical and administrative support of producers (BOZA MARTÍNEZ, 2013; IFOAM, 2007; TORREMOCHA, 2012A, 2012B; BOUAGNIMBECK, 2014; MAY, 2008; ANDRADE, 2015).

The aim of this Master thesis was to contribute with empiric evidence to the state of research on Participatory Guarantee Systems as a very young field of research by describing how the PGS concept is practiced in three Mexican local organic markets and identifying current problems, challenges and potentials for improvement. For doing so, the aim was to explore how selected elements and features of the IFOAM PGS framework were translated into practice. One aim of applying this framework as a concept for analysis was to identify potentials for improving the three PGS studied. As a basis for this analysis, organizational market structures and the general functionality of the participatory certification process practiced in the PGS were explored. Besides, the study aimed to explore the status quo of PGS implementation with regard to the continuity of the participatory certification process and market vendors' evaluation of the participatory certification process currently practiced. Furthermore, problems experienced and potentials for improvement perceived by market vendors and consumers were studied.

Data collection was conducted between October 2015 and March 2016 in three Mexican local organic markets which used PGS as a guarantee system for products sold at the market: the organic market of Chapingo (state of Mexico), the alternative market of Tlaxcala (state of Tlaxcala) and the alternative market "*el Pochote Xochimilco*" (state of Oaxaca). Surveys were conducted with market vendors (producers, processors and intermediaries selling products at the market) and consumers of the markets. In addition, semi-structured and informal interviews were conducted with market vendors in key positions of the market organization and key informants from institutions engaged with PGS in Mexico. Key documents of the three markets were analyzed and participant and non-participant observation was carried out as supportive data collection technique.

Results showed that markets' PGS were based on very similar organizational structures, which served for organizing the PGS, the joint commercialization of products, but other activities, such as educational and cultural activities or a common loan system as well, depending on the respective local context and reflecting these markets' aim to be more than a place for exchanging commodities and PGS being more than a system for providing guarantee of organic products. The participatory certification process was organized based on local certification committees. Except for a new certification committee put up in the market of Chapingo at the very end of data collection, market vendors were the only actor group directly engaged in the organization of the market and the participatory certification process, which partly contradicts what has been reported in literature. Survey results revealed a gap between the frequency of monitoring visits theoretically defined and the frequency practically implemented. Only in one market visits were carried out with the frequency theoretically defined. Results of the study suggest conflicts between market

vendors and, in-line with literature, time constraints of market vendors who were in charge of carrying out the participatory certification process as potential factors which negatively influenced the continuity of the participatory certification process. Literature suggests that collaboration with an external stakeholder, such as an NGO or a university or the participation of other actors than market vendors could help to improve the continuity of the participatory certification process in the future.

The analysis of the three PGS based on the IFOAM PGS framework showed that elements and features analyzed were put into practice to differing degrees between markets and with gaps in some cases.

Clearly defined consequences for non-compliance with standards, suggested as an important element of PGS in the IFOAM PGS framework, showed to be poor. Avoidance of conflicts among colleagues and the aim to give market vendors the opportunity to achieve compliance were reasons mentioned for not implementing sanctions.

Another element of the PGS framework which proved to be missing was a clear written outline of the participatory certification process in the case of Oaxaca. In-line with literature and the market president's perception, it can be suggested as element to improve the PGS in the future, for that all market vendors have the possibility to find out how the process works and for decentralizing the certification process. Besides, it is an important requirement for achieving legal recognition as PGS before the Mexican national competent authority. However, results also showed time constraints of key actors to be a potential obstacle for developing such a document. Whether the lack of a written definition of the process did cause a lack of market vendors' awareness of its functionality or not could not be analyzed within the scope of this thesis.

Learning in the form of training activities and as part of the participatory certification process was practiced to differing degrees between markets and showed to be evaluated as important by vendor survey respondents for their learning about organic farming and PGS. Results showed that market vendors wished to receive more training and further education in the future and that some survey respondents and key informants considered it an important factor for the market and the PGS to improve in the future. Besides, in-line with literature, it was mentioned by key informants as an important factor for fostering the sharing of responsibilities and the participation of market vendors in the PGS. It hence can be suggested as a factor for improving markets and their PGS in the future. Study results in the context of literature underlined collaboration with external stakeholders as important for offering educational activities and fostering training of market vendors.

Trust of vendor and consumer survey participants in the organic quality of organic products sold at the market was generally high. Although consumers primarily based their trust in the direct relationship with vendors and trust in the market, literature suggests that raising consumers' awareness about the PGS may have the potential to increase their trust in the quality of products sold at the market. Besides, having some type of certification at the market for formally supporting their trust was evaluated as important by consumer survey participants. However, literature and methodological shortcomings of the study also suggest that further research on consumer trust in PGS would be needed in order to make clearer statements.

With regard to the participation of market vendors in the certification committee and in peer review visits, results, in comparison with available literature, suggest a high degree of participation of market vendors. Market vendors who had participated in the certification committee showed higher levels of self-assessed knowledge about PGS than those vendors who had not participated. Reported reasons for participating in the PGS to some extent confirmed the importance of learning and experience exchange which has been suggested as important element of certification in PGS in literature and market vendors' evaluation of the participatory certification process for their personal learning. Lack of perceived

knowledge and time constraints were important reasons why vendors had not participated, apart from the fact that they had not been invited or nominated.

Consumers showed to play no role in the organization and operation of markets' PGS. In the case of the market in Oaxaca, consumer participation was not intended, which according to literature might be regarded as a contradiction to the PGS ideal. In the case of Chapingo and Tlaxcala, it was intended but had not been achieved on a regular basis yet. This is in-line with findings from prior studies which found consumer involvement difficult to achieve. Consumers' awareness of the PGS showed to be very low. Results suggest that more promotion and dissemination of the PGS to consumers would be needed in order to provide the precondition to foster consumer participation. Literature suggests that raising consumer awareness and knowledge about the PGS may have the potential to positively influence their purchasing behavior towards PGS certified products as well and target the lack of consumer awareness and their unwillingness to pay respective prices as problems and challenges perceived by some market vendors in Oaxaca.

Problems experienced by market vendors and perceived by key informants and suggestions for improvement made did partly differ between markets. Results regarding actors' problem perception and potentials for improvement mentioned, in combination with literature proved the marketplace to be an important factor for markets' and PGS' stability and a potential threat for an initiative's sustainability. Besides, the relationship among market vendors and awareness and commitment of all market vendors engaged showed to be a key factor. Furthermore, market vendors considered the market infrastructure, promotion of the market, the variety of products offered at the market and the continuity of the certification process as important factors for improvement. From a consumer perspective, the variety of products sold at the market, the market infrastructure and the organization of the market showed to be important to be improved in the future.

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12. Annex

12.1. Research questions and hypotheses, variables, indicators, related data collection instruments and statistical tests applied for testing hypotheses

Table 27: Research questions, variables, indicators and related data collection instruments

Variable	Indicator	Data Collection Instrument
RQ I: How is PGS put into practice in three local organic markets in Mexico?		
<i>I.1: What organizational structures are markets' PGS based on?</i>		
Organizational market structures PGS is organized from	Number of committees, number of members, basic responsibilities of committees, type of actors participating	Semi-structured interviews with key informants Analysis of key documents Participant observation
<i>I.2: How is the general functionality of the participatory certification process practiced?</i>		
General functionality of the PGS	steps in the certification process, organizational units and actors involved	Semi-structured interviews with key informants Analysis of key documents
<i>I.3: How is IFOAM's PGS framework translated into practice with regard to the following elements and features:</i>		
a. Vision, Values and Principles	General vision, basic values and principles of market and PGS as laid down in key documents or (in case not documented) described by key informants	Analysis of market and PGS regulations, semi-structured interviews with key informant (Oaxaca)
b. Standards and Norms	Standards and norms for products sold at the market applied	Analysis of key documents, semi-structured interviews with key informants
c. Mechanisms to verify compliance	Explicit mechanisms to verify producers' and processors' compliance with standards implemented as part of the participatory certification process	Semi-structured interviews with key informants, analysis of key documents
d. Consequences for non-compliance	Type of consequences for non-compliance with standards defined Documentation of consequences	Semi-structured interviews with key informants Analysis of key documents
e. Documented management systems and procedures	Documentation of the general functionality of the certification process Mechanisms of documentation used throughout the participatory certification process	Semi-structured interviews with key informants Analysis of key documents
f. Seals and labels	Certification categories distinguished Ways of distinguishing certification categories at the marketplace	Semi-structured interviews with key informants, analysis of key documents, participant observation
g. Processes of permanent learning	Type of activities for learning and capacity building organized within the market for vendors and consumers Way of practicing learning as part of the certification process Importance of participation in certification process and of workshops organized within the market for learning about organic agriculture and participatory certification evaluated by vendors	Semi-structured interviews with market coordinators and member of certification committee Analysis of key documents (internal market regulations) Participant observation Survey questionnaire: question 50

	Vendor survey participants having received training	Survey questionnaire: question 51
	Last time vendor survey participants have received training	Survey questionnaire: question 53
	Vendor survey participants wishing to receive more training	Survey questionnaire: question 58
	Topics vendor survey participants wish to receive more training in	Survey questionnaire: question 59
h. Horizontality	Number of roles defined in organizational structures of the market and its PGS, ratio between number of members and number of positions defined	Semi-structured interviews with key informants, analysis of key documents
	Frequency of elections	
i. Participation	Participation of different actor groups in the certification committee, peer review visits and decision-making as laid down in key documents and described by key informants	Semi-structured interviews with key informants, analysis of key documents
	Confirmation of participation in certification committee, peer review visits and decision-making, Date of last participation in certification committee and peer review visits (vendors)	Survey questionnaire: question 45, 38-40a,b
	Consumer' having heard about PGS	Survey questionnaire: question 17
	Confirmation of participation in certification committee and peer review visits (consumers)	Survey questionnaire: questions 19-21a,b
	Reasons to participate or not participate in certification committee and peer review visits reported by vendors	Survey questionnaire: questions 41a,b; 42a,b
	Reasons to participate or not participate in the certification committee and peer review visits reported by consumers	Survey questionnaire: questions 22a,b; 23a,b
j. Transparency	accessibility of key documents of market and PGS and documents and information created throughout the participatory certification process to market vendors	Semi-structured interviews with market coordinators
	Mechanism used to communicate results of certification process to market members	Analysis of key documents (internal market regulations)
k. Trust	Vendors' evaluation of their trust in that organic products sold by colleagues are organic	Survey questionnaire: questions 15
	Consumers' evaluation of their trust in that organic products sold at the market are organic	Survey questionnaire: questions 40
	Reasons consumers know that products sold at the market are organic	Survey questionnaire: questions 41
	Importance of some kind of certification to formally back their trust evaluated by consumers	Survey questionnaire: questions 42
<i>I.3:How is the status quo of PGS implementation with regard to the continuity of monitoring visits and vendors' evaluation of the participatory certification process currently practiced?</i>		
Status quo of certification	number of market vendors certified by PGS	Survey questionnaire: question 25
	date of last visit to certified vendors' production and/or processing units	Survey questionnaire: question 27
	Vendors' evaluation of certification process currently practiced	Survey questionnaires: question 44
<i>RQ II: What are the main problems and challenges experienced by vendors and consumers engaged in the PGS of three Mexican local organic markets and what potentials for improving the market and its PGS do vendors and consumers perceive?</i>		
a. Problems perceived	Confirmation of having experienced problems in the course of participation at the market; Types of problems experienced (vendors)	Survey questionnaires: question 71 and 72
	Confirmation of having experienced problems in the course of participation at the market: Types of problems experienced (consumers)	Survey questionnaires: question 43 and 44

Kaufmann, Sonja. 2016. Participatory Guarantee Systems (PGS) in Mexico: An analysis of three local organic markets' PGS – status quo, challenges faced and potentials for improvement. Master thesis. University of Natural Resources and Life Sciences Vienna (Austria). <https://www.nas.boku.ac.at/ifoel/arbeitsgruppen/arbeitsgruppe-wissenssysteme-und-innovationen-agwi/>.

	Types of problems and challenges perceived by market vendors in key positions	Semi-structured interviews with key informants
b. Potentials for improvement perceived	Type of suggestions for further improvement of the market and its PGS (vendors)	Survey questionnaires: question 73 and 74
	Type of suggestions for further improvement of the market and its PGS (consumers)	Survey questionnaires: question 45 and 32
	Suggestions for improvement of the market and its PGS made by vendors in key positions, key factors for PGS to function mentioned	Semi-structured interviews with market coordinators and member of certification committee

Table 28: Hypotheses, variables, related data collection instrument and statistical test applied

Variable		Data Collection Instrument	Statistical Test applied
H1: Vendors who participate in the certification committee have higher levels of formal education than vendors who do not participate in the certification committee.			
Dependent variable	Participation in the certification committee (yes/no)	Survey questionnaires: question 38b	Chi-square test
Independent variable	Highest level of formal education completed (basic education/higher education)	Survey questionnaires: question 83	
H2a: Vendors who participate in the certification committee show higher levels of self-assessed knowledge about organic farming than vendors who do not participate in the certification committee.			
Dependent variable	Level of self-assessed knowledge about organic farming (ordinal scale 0-5)	Survey questionnaires: question 64a	Mann-Whitney-U test, Kolmogorov-Smirnov test
Independent variable	Participation in the certification committee (yes/no)	Survey questionnaires: question 38b	
H2b: Vendors who participate in the certification committee show higher levels of self-assessed knowledge about PGS than vendors who do not participate in the certification committee.			
Dependent variable	Level of self-assessed knowledge about PGS (ordinal scale 0-5)	Survey questionnaires: question 64b	Mann-Whitney-U test, Kolmogorov-Smirnov test
Independent variable	Participation in the certification committee (yes/no)	Survey questionnaires: question 38b	
H2c: Vendors who participate in peer review visits to other vendors' production or processing units show higher levels of self-assessed knowledge about organic farming than vendors who do not participate in peer review visits.			
Dependent variable	Level of self-assessed knowledge about organic farming (ordinal scale 0-5)	Survey questionnaires: question 64a	Mann-Whitney-U test, Kolmogorov-Smirnov test
Independent variable	Participation in peer review visits (yes/no)	Survey questionnaires: question 38a	
H2d: Vendors who participate in peer review visits to other vendors' production or processing units show higher levels of self-assessed knowledge about PGS than vendors who do not participate in peer review visits.			
Dependent variable	Level of self-assessed knowledge about PGS (ordinal scale 0-5)	Survey questionnaires: question 64b	Mann-Whitney-U test, Kolmogorov-Smirnov test
Independent variable	Participation in peer review visits (yes/no)	Survey questionnaires: question 38a	
H3a: Vendors who participate in the certification committee show higher levels of self-reported trust in that organic products sold by other market vendors are organic.			
Dependent variable	Trust in that organic products sold by other market vendors are organic (ordinal scale 0-6)	Survey questionnaires: question 15	Mann-Whitney-U test, Kolmogorov-Smirnov test
Independent variable	Participation in the certification committee (yes/no)	Survey questionnaires: question 38b	

H3b: Vendors who participate in peer review visits to other vendors' production or processing units show higher levels of self-reported trust in that organic products sold by other market vendors are organic.			
Dependent variable	Trust in that organic products sold by other market vendors are organic (ordinal scale 0-6)	Survey questionnaires: question 15	Mann-Whitney-U test, Kolmogorov-Smirnov test
Independent variable	Participation in peer review visits (yes/no)	Survey questionnaires: question 38a	
H4a: Vendors who have received training show higher levels of self-assessed knowledge about organic farming than vendors who have not received training.			
Dependent variable	Level of self-assessed knowledge about organic farming (ordinal scale 0-5)	Survey questionnaires: question 64a	Mann-Whitney-U test, Kolmogorov-Smirnov test
Independent variable	Having received training (yes/no)	Survey questionnaire: question 51	
H4b: Vendors who have received training show higher levels of self-assessed knowledge about PGS than vendors who have not received training.			
Dependent variable	Level of self-assessed knowledge about PGS (ordinal scale 0-5)	Survey questionnaires: question 64b	Mann-Whitney-U test, Kolmogorov-Smirnov test
Independent variable	Having received training (yes/no)	Survey questionnaire: question 51	

12.2. List of key informants

Table 29: List of key informants

Abbr.	Type of informant	Market / Institution	Date [month/year]	Nr. of Interview	Type of interview
KI 1	Market vendor, Key position	Tianguis orgánico Chapingo	12 / 2015	I1	Semi-structured Interview (recorded)
			10 / 2015	I2	Survey (Pretest)
KI 2	Market vendor, Key position	Tianguis Alternativo Tlaxcala	12 / 2015	I1	Semi-structured Interview (recorded)
			12 / 2015	I2	Semi-structured Interview (recorded)
			11 / 2015	I3	Informal (meeting with external people)
			11 / 2015	I4	Informal (General Assembly meeting)
KI 3	Market vendor, Key position	Tianguis Alternativo Tlaxcala	12 / 2015	I1	Semi-structured interview (recorded)
			12 / 2015	I1	Semi-structured interview (recorded)
			12 / 2015	I2	Survey
KI 4	Market vendor, Key position	Tianguis Alternativo Tlaxcala	12 / 2015	I1	Semi-structured Interview (recorded)
KI 5	Market vendor, Key position	Mercado Alternativo “El Pochote Xochimilco”	11 / 2015	I1	Semi-structured Interview (recorded)
			01 / 2016	I2	Informal
			01 / 2016	I3	
KI 6	Market vendor	Tianguis orgánico Chapingo	11 / 2015	I1	Survey
			02 / 2016	I2	Informal (Meeting market members & university)
KI 7	Market vendor	Tianguis orgánico Chapingo	11 / 2015	I1	Survey
			10 / 2015	I2	Informal
			03 / 2016	I3	Informal (Meeting market members & university)
KI 8	Market vendor	Tianguis orgánico Chapingo	11 / 2015	I1	Survey
KI 9	Market vendor	Tianguis orgánico Chapingo	12 / 2015	I1	Survey
	Market vendor, key position	Foro tianguis alternativo Ecológico	03 / 2016	I2	Informal
	Market vendor, key position	Foro tianguis alternativo Ecológico	03 / 2016	I3	Informal (Meeting market members & university)
KI 10	Market vendor	Tianguis orgánico Chapingo	12 / 2015	I1	Survey
			12 / 2015	I2	Survey
			02 / 2016	I3	Meeting
KI 11	Market vendor	Tianguis orgánico Chapingo	10 / 2015	I1	Survey (Pretest)
KI 12	Market vendor	Tianguis orgánico Chapingo	10 / 2015	I1	Survey (Pretest)
KI 13	Market vendor	Tianguis orgánico Chapingo	10 / 2015	I1	Survey (Pretest)
			02 / 2016	I2	Informal (Meeting market members & university)
KI 14	Academic, key position	Universidad Autónoma Chapingo	10 / 2015	I1	Informal
			10 / 2015	I2	Informal
			11 / 2015	I3	Informal
			01 / 2016	I4	Informal
			02 / 2016	I5	Informal
			03 / 2016	I6	Informal (Meeting market members & university)

Kaufmann, Sonja. 2016. Participatory Guarantee Systems (PGS) in Mexico: An analysis of three local organic markets' PGS – status quo, challenges faced and potentials for improvement. Master thesis. University of Natural Resources and Life Sciences Vienna (Austria). <https://www.nas.boku.ac.at/ifoel/arbeitsgruppen/arbeitsgruppe-wissenssysteme-und-innovationen-agwi/>.

			10 / 2015	I7	Informal
KI 15	Academic, key position	Universidad Autónoma Chapingo	10 / 2015	I1	Informal
			03 / 2016	I2	Informal (Meeting market members & university)
			02 / 2016	I3	Informal (Meeting market members & university)
KI 16	Market vendor	Tianguis Alternativo Tlaxcala	12 / 2015	1	Informal (as part of semi-structured Interview with KI2 - recorded)
			12 / 2015	2	Informal
KI 17	Market vendor	Tianguis Alternativo Tlaxcala	12 / 2015		Informal (as part of semi-structured Interview with KI2 - recorded)
KI 18	Market vendor	Tianguis orgánico Chapingo	11 / 2015	I1	Survey
			03 / 2016	I2	Informal (Meeting market members & university)
KI 19	Academic, Key position	Universidad Autónoma de San Luis Potosí // Mercado orgánico Macuilli Teotzin	02 / 2016	I1, I2, I3	Structured (Email)
KI 20	Government	Government secretariat	03 / 2016	I1	Semi-structured Interview (notes)
KI 21	Market vendor, Key position	Tianguis Ecologico la Estacion	12 / 2015	I1	Semi-structured (as part of survey conducted by research fellow – notes)
KI 22	Market vendor	Tianguis El 100 – colonia Roma	12 / 2015	I1	Informal
KI 23	Market vendor	Tianguis El 100 – colonia Roma	12 / 2015	I1	Informal
KI 24	Market vendor	Mercado orgánico Macuilli Teotzin	01 / 2016	I1	Informal
KI 25	Market vendor	El bonito Tianguis	03 / 2016	I1	Informal
KI 26	Market vendor	El bonito Tianguis	03 / 2016	I1	Informal
KI 27	Consumer	Mercado alternativo Tlalpan	03 / 2016	I1	Informal
KI 28	Market vendor	Mercado alternativo Tlalpan	03 / 2016	I1	Informal
KI 29	Market vendor	Mercado alternativo Tlalpan	03 / 2016	I1	Informal
KI 30	Consumer	Tianguis Alternativo Tlaxcala	12 / 2015	I1	Informal (as part of semi-structured Interview with KI2 - recorded)
KI 31	Consumer	Tianguis orgánico Chapingo	10 / 2015	I1	Survey (Pretest)
KI 32	Market vendor	Tianguis orgánico Chapingo	10 / 2015	I1	Survey
KI 33	Academic	Universidad Autónoma Chapingo	02 / 2016	I1	Informal
			03 / 2016	I2	Informal
			03 / 2016	I3	Informal (Meeting market members & university)
KI 34	Market vendor	Tianguis orgánico Chapingo	03 / 2016	I1	Informal (Meeting market members & university)
KI 35	Key position market	Tianguis Alternativo Bosque de Agua, Ciudad de Mexico	03 / 2016		Informal
KI 36	Market vendor	Tianguis orgánico Chapingo	10 / 2015	I1	Survey (Pretest)
KI 37	Academic	Universidad Autónoma Chapingo	02 / 2016	I1	Informal (Meeting market members & university)
KI 38	Market vendor	Tianguis orgánico Chapingo	11 / 2015	I1	Survey
KI 39	Market vendor	Tianguis orgánico Chapingo	11 / 2015	I2	Survey

12.3. List of events for observation

Table 30: List of events for observation

Abbr.	Type of Event	Place	Date [month/year]	Type of Data Collection
E 1	Market Day	Tianguis orgánico Chapingo, el Cooperativo, Texcoco de Mora	10 / 2015	Notes & Protocol
E 2	Market Day	Tianguis orgánico Chapingo, el Cooperativo, Texcoco de Mora	10 / 2015	Notes & Protocol
E 3	Market Day	Tianguis orgánico Chapingo, el Cooperativo, Texcoco de Mora	10 / 2015	Notes & Protocol
E 4	Market Day	Tianguis orgánico Chapingo, el Cooperativo, Texcoco de Mora	10 / 2015	Notes & Protocol
E 5	Market Day	Tianguis orgánico Chapingo, el Cooperativo, Texcoco de Mora	11 / 2015	Notes & Protocol
E 6	Market Day	Tianguis orgánico Chapingo, el Cooperativo, Texcoco de Mora	12 / 2015	Protocol, Counting (List), Market Map
E 7	Market Day	Tianguis orgánico Chapingo, el Cooperativo, Texcoco de Mora	12 / 2015	Notes & Protocol
E 8	Market Day, meeting	Tianguis Alternativo Tlaxcala, Tlaxcala de Xicohténcatl	11 / 2015	Notes & Protocol
E 9	General Assembly meeting	Tianguis Alternativo Tlaxcala, Tlaxcala de Xicohténcatl	11 / 2015	Notes & Protocol
E 10	Market Day	Tianguis Alternativo Tlaxcala, Tlaxcala de Xicohténcatl	12 / 2015	Protocol, Counting (List), Market Map
E 11	Market Day	Tianguis Alternativo Tlaxcala, Tlaxcala de Xicohténcatl	12 / 2015	Protocol, Counting (List), Market Map
E 12	Market Day	Tianguis Alternativo Tlaxcala, Tlaxcala de Xicohténcatl	12 / 2015	Protocol, Counting (List), Market Map
E 13	Market Day	Mercado Alternativo El Pochote Xochimilco, Oaxaca de Juárez	01 / 2016	Protocol, Counting (List), Market Map
E 14	Market Day	Mercado Alternativo El Pochote Xochimilco, Oaxaca de Juárez	01 / 2016	Protocol, Counting (List), Market Map
E 15	Market Day	Mercado Alternativo El Pochote Xochimilco, Oaxaca de Juárez	01 / 2016	Protocol, Counting (List), Market Map
E 16	Market Day	Mercado Alternativo El Pochote Xochimilco, Oaxaca de Juárez	01 / 2016	Protocol, Counting (List), Market Map
E 17	Market Day	Tianguis orgánico Chapingo, Oaxaca de Juárez	03 / 2016	Protocol, Counting (List), Market Map
E 18	Meeting	Universidad Autónoma Chapingo, Texcoco de Mora	11 / 2015	Notes & Protocol
E 19	Meeting	Universidad Autónoma Chapingo, Texcoco de Mora	02 / 2016	Notes & Protocol
E 20	Meeting	Tianguis orgánico Chapingo, el Cooperativo, Texcoco de Mora	03 / 2016	Notes & Protocol
E 21	Market Day	Unión de Productores Orgánicos. El Pochote A.C Oaxaca, Oaxaca de Juárez	11 / 2015	Notes & Protocol
E 22	Market Day	Tianguis Ecológico la Estación, Oaxaca de Juárez	11 / 2015	Notes & Protocol
E 23	Market Day	Mercado El 100, Colonia Roma, Mexico City	12 / 2015	Notes & Protocol
E 24	Market Day	Mercado Orgánico Macuilli Teotzin, San Luis Potosí	01 / 2016	Notes & Protocol
E 25	Market Day	El bonito tianguis, Mexico City	03 / 2016	Notes & Protocol
E 26	Market Day	Foro tianguis alternativo ecológico, Mexico City	03 / 2016	Notes & Protocol
E 27	Market Day	Mercado Alternativo de Tlalpan, Mexico City	03 / 2016	Notes & Protocol
E 28	Market Day	Tianguis Alternativo Bosque de Agua Ciudad de México, Mexico City	03 / 2016	Notes & Protocol

12.4. Documents resulting from qualitative data collection

Table 31: Qualitative Data: data source, data storage technique and number of resulting documents

Type of qualitative Data source	Data storage technique	No. of documents
a. Semi-structured and informal interviews		
Semi-structured interviews	• Record & transcript	4
	• Emails	3
	• Notes & protocol	1
Informal interviews / conversations	• Notes & protocol	14
Qualitative Data resulting from surveys and pre-tests	• Notes & protocol	17
b. Direct and participant observation		
Market visits (case study markets)	• Protocol, market map, lists (counting)	16
Market visits (other markets)	• Notes & protocol	8
Meetings	• Notes & protocol	5
Farm visits	• Notes & protocol	4
c. Internal documents		
Internal Documents of case study markets	• Scans, copies	19
Documentation of the Network and Chapingo's market	• Scans, copies	> 20

12.5. Vendor survey questionnaire

Encuesta para los productores de los tianguis (partly adapted from Nelson 2012, Gómez 2013)

Proyecto de tesis de Maestría

Sonja Kaufmann, Universidad de Recursos Naturales y Ciencias de la Vida, Viena Austria

SECCIÓN I: EL TIANGUIS ORGÁNICO

- ¿Cómo se enteró de la existencia de este tianguis?
- ¿Cuándo ingresó al tianguis orgánico? [año]: _____
- ¿Cuál fue el proceso de ingreso al tianguis?
- ¿Con qué productos ingresó al tianguis?
- ¿Qué productos vende actualmente en el tianguis?
- ¿Dónde obtiene los productos que vende en el tianguis orgánico?
(puede elegir más de una opción)

<input type="checkbox"/> Los compro en una tienda o un supermercado	<input type="checkbox"/> Compro las materias primas/los ingredientes y elaboro los productos ¿Dónde? _____
<input type="checkbox"/> Yo mismo los produzco/elaboro	<input type="checkbox"/> Alguien más me los da para que los venda ¿quién? _____
<input type="checkbox"/> Un miembro de mi familia los produce y me los da para que los venda	<input type="checkbox"/> Otra: _____
- ¿Cuántas veces al mes viene usted para vender sus productos en el tianguis? _____
- Usted, ¿vende sus productos en otros lugares?

<input type="checkbox"/> Sí	<input type="checkbox"/> No	(pase a la pregunta 9)
-----------------------------	-----------------------------	------------------------

En caso de que su respuesta sea sí:

- ¿Dónde? _____
- Usted, ¿Por qué participa en el tianguis? ¡Mencione las 3 principales razones!:
 - Para usted, ¿cuáles son los beneficios más importantes que obtiene por su participación en el tianguis?
 - ¿Por qué vende usted sus productos en este tianguis?

Indique la importancia de los siguientes factores al momento de elegir este tianguis respecto a otros medios para la venta de sus productos:

Importancia	Ninguna	Muy Baja	Baja	Regular	Alta	Muy Alta
	[0]	[1]	[2]	[3]	[4]	[5]
El fomento del consumo local a través de la venta de sus productos en este tianguis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
El hecho que en este tianguis puede tener una relación directa con los consumidores	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
El hecho que en este tianguis puede concientizar a los consumidores sobre la producción orgánica	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
El hecho que en este tianguis puede generar ingresos más altos que en otros lugares	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
El hecho que este tianguis es el único lugar donde puede vender sus productos como orgánicos	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
El hecho que en este tianguis forma parte de una comunidad de productores	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
La cercanía de este tianguis a su casa	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
El hecho que los consumidores de este tianguis le valoran más que los consumidores en otros puntos de venta	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

12. Usted, ¿paga alguna cuota para su participación en este tianguis?

☐ Sí ☐ No ¿Cuánto es? _____

13. ¿Cuál es su opinión en relación a la situación actual de los siguientes aspectos del tianguis orgánico?

	Muy Malo	Malo	Regular	Bueno	Muy Bueno
	[1]	[2]	[3]	[4]	[5]
Su sentimiento de comunidad con los demás productores de este tianguis es	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
La organización de este tianguis es	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
La oferta de talleres en este tianguis es	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
La comunicación entre los miembros de este tianguis es	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
La cantidad de productos que se ofrece en este tianguis es	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
La variedad de productos que se ofrece en este tianguis es	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
La difusión de este tianguis es	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
La demanda de sus productos por los consumidores de este tianguis es	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Su posibilidad de participar en la toma de decisiones respecto a este tianguis es	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
La relación entre los miembros de este tianguis es	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

14. Según su opinión, ¿qué tan importante es el hecho de tener una certificación orgánica para los productores del tianguis? Indique el nivel de importancia:

☐ Ninguna ☐ Muy Baja ☐ Baja ☐ Regular ☐ Alta ☐ Muy Alta

[0] [1] [2] [3] [4] [5]

15. Indique su nivel de confianza respecto a que los productos orgánicos de otros productores del tianguis sean orgánicos:

☐ Ninguna ☐ Muy Baja ☐ Baja ☐ Regular ☐ Alta ☐ Muy Alta ☐ Completa

[0] [1] [2] [3] [4] [5] [6]

SECCIÓN II: EL REGLAMENTO INTERNO DEL TIANGUIS ORGÁNICO

16. Usted, ¿conoce la normativa de la producción orgánica aplicada en el tianguis?

☐ Sí ☐ No

17. ¿El tianguis tiene un reglamento escrito para la certificación participativa?

☐ Sí ☐ No ☐ No lo sé

En el caso de que su respuesta sea sí.

18. Usted, ¿ha participado en desarrollar dicho reglamento?

☐ Sí ☐ No

19. Usted, ¿cómo puede informarse sobre la normativa de la producción orgánica y el proceso de la certificación participativa del tianguis?

20. Cuando un productor del tianguis no lleva su producción según la normativa orgánica, ¿cuáles serán las consecuencias para él?

SECCIÓN III: LA CERTIFICACIÓN ORGÁNICA

21. ¿En qué categoría se encuentran sus productos por el momento?

(Puede elegir más de una opción)

- ☐ orgánico
☐ en transición
☐ natural
- ☐ artesanal
☐ otra: _____
22. ¿Desde hace cuando se encuentran en esa categoría? _____
23. ¿Quién le otorgó dicha categoría? (*Elija solo una opción*)
- ☐ El comité de certificación del tianguis
☐ El comité de certificación de otro tianguis
¿Cuál? _____
☐ Dictamen exclusivo del coordinador del tianguis
- ☐ La asamblea de los miembros del tianguis
☐ Dictamen exclusivo de un miembro de una Universidad, ONG u otra organización que no sea miembro del comité de certificación del tianguis
☐ Otra: _____
24. ¿Cuenta su producción con certificación por agencia (p.ej. Certimex)?
- ☐ Si ☐ No
25. ¿Cuenta su producción con certificación participativa?
- ☐ Si ☐ No (pase a la pregunta 36)

En caso de que su respuesta sea sí.

26. ¿Desde hace cuándo? _____
27. ¿Cuándo fue la última visita a su(s) parcela(s) / su unidad de procesamiento? _____
28. ¿Cuántas visitas de acompañamiento ha recibido en su(s) parcela(s) / su unidad de procesamiento? _____
29. Indique cuáles de los siguientes actores participaron en las visitas de acompañamiento en su unidad de producción: (*Puede elegir más de una opción*)
- ☐ Otros productores del tianguis
☐ Consumidores del tianguis
☐ El coordinador/los coordinadores del tianguis
☐ Miembros de alguna universidad ¿cuál? _____
☐ Miembros de la REDAC
☐ Miembros de alguna ONG u otra organización ¿cuál? _____
☐ Otro: _____
30. ¿Usted tiene/tenía costos para la certificación participativa?
- ☐ Si ☐ No (pase a la pregunta 34)

En caso de que su respuesta sea sí

31. ¿Cuáles eran los costos que usted tenía para la certificación participativa? _____
32. ¿Para cual(es) uso(s) fueron? _____
33. ¿Cómo evalúa los costos que hay/había que pagar para la certificación participativa?
- | | | | | |
|---|---|--|---|---|
| <input type="checkbox"/> Muy Bajo
[1] | <input type="checkbox"/> Bajo
[2] | <input type="checkbox"/> Regular
[3] | <input type="checkbox"/> Alto
[4] | <input type="checkbox"/> Muy Alto
[5] |
|---|---|--|---|---|
34. Según su experiencia, ¿cómo usted evalúa el papeleo necesario para la certificación participativa?
- | | | | | |
|---|---|--|---|---|
| <input type="checkbox"/> Muy Bajo
[1] | <input type="checkbox"/> Bajo
[2] | <input type="checkbox"/> Regular
[3] | <input type="checkbox"/> Alto
[4] | <input type="checkbox"/> Muy Alto
[5] |
|---|---|--|---|---|
35. Para usted, ¿cuáles son los beneficios más importantes que tiene por la certificación participativa?

Pase a la pregunta 37

En caso de que su respuesta sea no.

36. ¿Por qué no cuenta con certificación participativa?
37. Para usted, ¿en qué consiste la certificación participativa? ¡Explíquela con sus propias palabras!
38. ¿Usted participa o ha participado en:
- Visitas de acompañamiento a otros productores** ☐ Si ☐ No (pase a la pregunta 42)
-
- El comité de certificación participativa** ☐ Si ☐ No (pase a la pregunta 42)
-

En caso de que su respuesta sea sí.

39. ¿Con que regularidad participa o ha participado?:
- | | | | | |
|---|----------------------------------|---------------------------------------|---|-------------------------------------|
| En visitas de acompañamiento a otros productores | <input type="checkbox"/> Siempre | <input type="checkbox"/> Casi siempre | <input type="checkbox"/> De vez en cuando | <input type="checkbox"/> Casi nunca |
|---|----------------------------------|---------------------------------------|---|-------------------------------------|

En el comité de certificación participativa		<input type="checkbox"/> Siempre	<input type="checkbox"/> Casi siempre	<input type="checkbox"/> De vez en cuando	<input type="checkbox"/> Casi nunca
--	--	----------------------------------	---------------------------------------	---	-------------------------------------

40. ¿Cuándo fue la última vez que ha participado:
En visitas de acompañamiento a otros productores _____

En el comité de certificación participativa _____

41. ¿Cuáles son/eran las razones principales para participar?
En visitas de acompañamiento a otros productores _____

En el comité de certificación participativa _____

Pase a la pregunta 43

En caso de que su respuesta sea no.

42. ¿Porque no participa/ha participado? (*Elija solo una opción*)

En visitas de acompañamiento a otros productores	<input type="checkbox"/> no tiene/tenía tiempo	<input type="checkbox"/> No le parece importante
	<input type="checkbox"/> vive demasiado lejos	<input type="checkbox"/> No cuenta con medio de transporte
	<input type="checkbox"/> Siente que no tiene el conocimiento suficiente	<input type="checkbox"/> Otro: _____

En el comité de certificación participativa	<input type="checkbox"/> no tiene/tenía tiempo	<input type="checkbox"/> No le parece importante
	<input type="checkbox"/> vive demasiado lejos	<input type="checkbox"/> No cuenta con medio de transporte
	<input type="checkbox"/> Siente que no tiene el conocimiento suficiente	<input type="checkbox"/> Otro: _____

43. ¿Estaría dispuesto a participar en el futuro?

En el comité de certificación participativa	<input type="checkbox"/> Si	<input type="checkbox"/> No
En visitas de acompañamiento a otros productores	<input type="checkbox"/> Si	<input type="checkbox"/> No

44. ¿Cuál es su opinión en relación al proceso de certificación participativa de este tianguis cómo se está practicando actualmente?:

<input type="checkbox"/> Muy Malo [1]	<input type="checkbox"/> Malo [2]	<input type="checkbox"/> Regular [3]	<input type="checkbox"/> Bueno [4]	<input type="checkbox"/> Muy Bueno [5]
---	---	--	--	--

45. Usted, ¿participa en la toma de decisiones sobre la certificación participativa del tianguis?

☐ Si ☐ No

46. Cuando se toma decisiones sin su participación, ¿Cuál es su opinión en relación a la comunicación de dichas decisiones?

<input type="checkbox"/> Muy Mala [1]	<input type="checkbox"/> Mala [2]	<input type="checkbox"/> Regular [3]	<input type="checkbox"/> Buena [4]	<input type="checkbox"/> Muy Buena [5]
---	---	--	--	--

47. Según su opinión, ¿qué tan importante es la participación de los siguientes actores para que el proceso de certificación participativa funcione adecuadamente? Del siguiente listado ordene los actores por orden de importancia:

Una ONG, AC u otra organización	
Otros productores del tianguis	
Los consumidores	
Una universidad (académicos, técnicos, estudiantes,...)	
Otro: _____	

48. ¿El tianguis ha recibido algún apoyo monetario por parte de la Red?

☐ Si ☐ No ☐ No lo sé

49. ¿El tianguis ha recibido algún apoyo monetario por parte de alguna otra organización? (por ejemplo: universidad, ONG,...)

☐ Si ☐ No ☐ No lo sé

¿Cual? _____

SECCIÓN IV: ASESORÍA, EDUCACIÓN, CAPACITACIÓN

50. Para usted, ¿qué tan importantes son las siguientes fuentes de información/aprendizaje respecto a la agricultura orgánica y la certificación participativa? Indique el nivel de importancia:

Importancia	Ninguna [0]	Muy Baja [1]	Baja [2]	Regular [3]	Alta [4]	Muy Alta [5]
los talleres del tianguis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
los eventos y/o materiales de la Red	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Internet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
materiales de información entregado por el tianguis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

la comunicación con otros productores del tianguis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
la comunicación con otros productores que no participan en el tianguis	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
la participación en el proceso de certificación participativa (visitas de acompañamiento, etc)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
talleres, cursos o materiales de otra organización	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
otro:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

51. Usted, ¿ha recibido alguna forma de capacitación o asesoría técnica a través del tianguis o la Red?
☐ Sí ☐ No (pase a la pregunta 58)

En caso de que su respuesta sea sí,

52. ¿Cuántas veces? _____
53. ¿Cuándo fue la última vez que ha recibido una capacitación o asesoría técnica a través del tianguis o la Red?

54. ¿Cuáles han sido los temas de los cursos de capacitación o asesoría técnica?
☐ Certificación orgánica
☐ Certificación Participativa
☐ Ley de productos orgánicos en México
☐ Manejo de plagas y enfermedades en los cultivos
☐ Conservación de suelo
☐ Proceso de transformación de productos alimenticios
☐ Normas orgánicas para participar en el Comité de Certificación
☐ Otra: _____
55. ¿Quién les ha brindado la capacitación? (puede elegir más de una opción)
☐ otro productor del tianguis
☐ una persona de la Red
☐ un técnico de alguna universidad (¿Cuál? _____)
☐ ONG u otra organización
☐ un miembro de otro tianguis (¿Cuál? _____)
☐ otro: _____
56. Usted ha tenido algunos gastos para la capacitación a través del tianguis o la Red?
☐ Sí ☐ No Pase a la pregunta 58

En caso de que su respuesta sea sí

57. ¿Cuáles eran los gastos que usted tenía para la capacitación? _____
58. ¿A usted, ¿le gustaría recibir más capacitación a través del tianguis?
☐ Sí ☐ No ☐ No lo sé
59. En caso de que su respuesta sea sí, ¿en cuáles temas le gustaría recibir más capacitación?
60. Usted, ¿ha dado alguna capacitación o asesoría técnica a otros miembros del tianguis?
☐ Sí ☐ No (pase a la pregunta 6364)

En caso de que su respuesta sea sí,

61. ¿Cuántas veces? _____
62. En caso de que su respuesta sea sí, ¿cuáles han sido los temas de los cursos de capacitación que ha dado?

En caso de que su respuesta sea no,

63. ¿Por qué no ha dado capacitación o asesoría técnica a otros miembros?
64. ¿Estaría dispuesto usted a dar capacitación o asesoría técnica a otros miembros del tianguis en el futuro?
☐ Sí ☐ No
65. Usted, ¿cómo evalúa sus conocimientos sobre:

	Nulo [0]	Muy Bajo [1]	Bajo [2]	Regular [3]	Alto [4]	Muy Alto [5]
La agricultura orgánica	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
La certificación participativa	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SECCIÓN VI: LA AGRICULTURA ORGÁNICA

66. Para usted, ¿qué es la agricultura orgánica? ¡Defínela con sus propias palabras!
67. ¿Cuántos años de experiencia tiene usted con la agricultura orgánica? _____

68. ¿Cómo se enteró usted de la agricultura orgánica?

69. Usted, ¿Por qué decidió empezar con la producción orgánica?

70. Indique la importancia de los siguientes factores para su decisión de producir de manera orgánica:

Importancia	Ninguna [0]	Muy Baja [1]	Baja [2]	Regular [3]	Alta [4]	Muy Alta [5]
Su salud	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
El bienestar de los animales	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
La salud de su familia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
La salud del consumidor	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
El cuidado del medio ambiente	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
El mejor sabor de los productos producidos	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Los ingresos que puedo generar con la agricultura orgánica	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
La calidad más alta de los productos producidos	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SECCIÓN V: PROBLEMAS

71. A lo largo de su participación en el tianguis, ¿ha experimentado algún tipo de problema?

☐ Sí ☐ No (pase a la pregunta 73)

72. En caso de que su respuesta sea sí, ¿cuáles problemas ha tenido?

73. Según usted, ¿Existen cosas que se podría mejorar en el tianguis? ¿Cuáles?

74. Según usted, ¿Existen cosas que se podría mejorar respecto al proceso de certificación participativa del tianguis? ¿Cuáles?

SECCIÓN VII: DATOS BÁSICOS

75. Tianguis orgánico de pertenencia: _____

76. Edad: _____

77. Sexo

☐ femenino ☐ masculino

78. Estado Civil

☐ Soltero/a ☐ Divorciado/a
☐ Casado/a ☐ Viudo/a
☐ Unión libre ☐ Otro: _____

79. ¿Cuál es su lugar de residencia? _____

80. ¿Cuál es la distancia entre su casa y el tianguis [km]? _____

81. ¿Cuál es el tiempo que tarda en llegar de su casa al tianguis [min]? _____

82. ¿Cuál es la forma de transporte que utiliza? _____

83. Indique el nivel máximo de estudios cursados:

☐ Primaria incompleta ☐ Universidad
☐ Primaria ☐ Doctorado
☐ Secundaria ☐ Otro: _____
☐ Preparatoria

84. ¿Cuál es el ingreso neto en su hogar (promedio) por mes [MXN]?:

☐ < 3000 ☐ >13000 - 15000
☐ 3000 - 5000 ☐ >15000 - 17000
☐ > 5000 - 7000 ☐ >17000 - 19000
☐ > 7000 - 9000 ☐ >19000 - 21000
☐ > 9000 - 11000 ☐ >21000 - 23000
☐ > 11000 - 13000 ☐ >23000

85. Ventas semanales (promedio) en el tianguis [MXN]: _____

86. Además de los ingresos por las ventas en el tianguis, ¿tiene algún otro tipo de ingresos?

☐ Sí ☐ No (pase a la pregunta 88)

87. En caso de que su respuesta sea sí, ¿Cuál? _____

88. ¿Cuál es el porcentaje del ingreso total en su hogar que viene de las ventas en el tianguis?:

☐ < 10 % ☐ 71 - 90 %

- ☐ 10 < 30 % ☐ > 90 %
☐ 31 – 50 % ☐ no lo sé
☐ 51 – 70 %

89. ¿Cuál es el porcentaje del ingreso total en su hogar que viene de la agricultura?:

- ☐ < 10 % ☐ 71 – 90 %
☐ 10 < 30 % ☐ > 90 %
☐ 31 – 50 % ☐ no lo sé
☐ 51 – 70 %

90. ¿Cuál es la superficie de terreno destinado a la producción agropecuaria que usted maneja?: _____

¡¡MUCHAS GRACIAS POR SU PARTICIPACIÓN!!

12.6. Consumer survey questionnaire

Encuesta para los consumidores de los tianguis (partly adapted from Nelson 2012, Gómez 2013)

Proyecto de tesis de Maestría

Sonja Kaufmann, Universidad de Recursos Naturales y Ciencias de la Vida, Viena Austria

SECCIÓN I: EL TIANGUIS ORGÁNICO

1. ¿Desde hace cuánto tiempo viene usted a este tianguis? _____
2. ¿Cuántas veces al mes viene usted a este tianguis? _____
3. ¿Cuánto tiempo se queda usted en este tianguis?[promedio en minutos] _____
4. ¿Por qué viene usted a este tianguis? Del siguiente listado ordene por orden de importancia las 3 principales razones:

A	el apoyo a los pequeños productores a través de la compra de productos en este tianguis
B	el ambiente de este tianguis
C	la característica orgánica de los productos de este tianguis
D	el hecho que en este tianguis puede hablar directo con el productor
E	el precio de los productos de este tianguis
F	la calidad y/o sabor de los productos de este tianguis
G	el consumo de productos locales
H	la diversidad de los productos de este tianguis
I	la higiene de los productos de este tianguis
J	el hecho que los productos de este tianguis son buenos para su salud
K	el cuidado del medio ambiente
L	la cercanía de este tianguis a su casa
M	los talleres que se ofrece en este tianguis
N	otra razón: _____

1.

2.

3.

5. ¿Cuáles son los productos que compra con mayor frecuencia en este tianguis?

6. ¿Cuánto gasta por visita en este tianguis?[promedio MXN] _____

7. ¿Cómo le parecen los precios en este tianguis orgánico?

- ☐ **Muy Bajo** ☐ **Bajo** ☐ **Regular** ☐ **Alto** ☐ **Muy alto**
 [1] [2] [3] [4] [5]

8. Aproximadamente, ¿qué porcentaje de su consumo de alimentos cubre con sus compras en este tianguis?

- ☐ 0 – 10% ☐ 51 – 75%
☐ 11 – 25% ☐ 76 – 100%
☐ 26 – 50%

9. ¿Existen productos que usted quisiera comprar y que el tianguis no ofrezca?

- ☐ Si ☐ No (pase a la pregunta 11)

En caso de que su respuesta sea sí,

10. ¿Cuáles son estos productos?

11. ¿Cuál es su opinión en relación a los siguientes aspectos del tianguis?

	Muy Malo	Malo	Regular	Bueno	Muy Bueno
	[1]	[2]	[3]	[4]	[5]
La variedad de productos que se ofrece en este tianguis es	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
La calidad de los productos que se ofrece en este tianguis es	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
El ambiente de este tianguis es	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
La atención al consumidor que prestan los productores de este tianguis es	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Los horarios de este tianguis son	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
La organización de este tianguis es	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
La oferta de talleres en este tianguis es	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
La difusión de este tianguis es	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

12. ¿Qué tan importante es la característica orgánica de los productos de este tianguis para su decisión de compra? Indique el nivel de importancia:

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Nulo	Muy bajo	Bajo	Regular	Alto	Muy Alto
[0]	[1]	[2]	[3]	[4]	[5]

13. ¿Compra usted productos orgánicos en otros lugares?

☐ Sí ☐ No

En caso de que su respuesta sea sí.

14. ¿Cuáles son los productos orgánicos que compra en otros lugares?

SECCIÓN II: LA AGRICULTURA ORGÁNICA

15. Para usted, ¿Qué es la agricultura orgánica? ¡Describela en sus propias palabras!

16. Para usted, ¿cuáles son las principales razones para comprar productos orgánicos? Del siguiente listado ordene por orden de importancia las 3 principales razones que tiene usted para comprar productos orgánicos:

A	Su salud	
B	La salud del productor	1. _____
C	El cuidado del medio ambiente	2. _____
D	El sabor de los productos	3. _____
E	La calidad de los productos	
F	El bienestar de los animales	
G	La higiene de los productos	
H	Otra razón: _____	

SECCIÓN III: LA CERTIFICACIÓN ORGÁNICA PARTICIPATIVA

17. ¿Usted ha escuchado hablar sobre la certificación participativa / los sistemas participativos de garantía?

☐ Sí ☐ No (pase a la pregunta 33)

En caso de que su respuesta sea sí.

18. Para usted, ¿en qué consiste la certificación participativa? ¡Explíquela en sus propias palabras!

19. ¿Usted participa o ha participado en:

Visitas de acompañamiento a productores ☐ Sí ☐ No (pase a la pregunta 23)

El comité de certificación participativa ☐ Sí ☐ No (pase a la pregunta 23)

En caso de que su respuesta sea sí.

20. ¿Con qué regularidad participa o ha participado?:

En visitas de acompañamiento a productores	<input type="checkbox"/> Siempre	<input type="checkbox"/> Casi siempre	<input type="checkbox"/> De vez en cuando	<input type="checkbox"/> Casi nunca
En el comité de certificación participativa	<input type="checkbox"/> Siempre	<input type="checkbox"/> Casi siempre	<input type="checkbox"/> De vez en cuando	<input type="checkbox"/> Casi nunca

21. ¿Cuándo fue la última vez que ha participado:

En visitas de acompañamiento a productores _____

En el comité de certificación participativa _____

22. ¿Cuáles son/eran las razones principales para participar?

**En visitas de acompañamiento a productores
En el comité de certificación participativa**

En caso de que su respuesta sea no.

23. ¿Por qué no participa/ha participado? (Elija solo una opción)

**En visitas de
acompañamiento a
productores**

☐ no tiene/tenía tiempo

☐ vive demasiado lejos

☐ Siente que no tiene el conocimiento suficiente

☐ No le parece importante

☐ No sabía que los consumidores pueden participar

☐ No cuenta con medio de transporte

☐ Otro: _____

**En el comité de certificación
participativa**

☐ no tiene/tenía tiempo

☐ vive demasiado lejos

☐ Siente que no tiene el conocimiento suficiente

☐ No le parece importante

☐ No sabía que los consumidores pueden participar

☐ No cuenta con medio de transporte

☐ Otro: _____

24. ¿Estaría interesado en participar en el futuro?

En el comité de certificación participativa

☐ Si

☐ No

En visitas de acompañamiento a productores

☐ Si

☐ No

25. Según su opinión, ¿por qué considera que no hay/había más consumidores participando en el comité de certificación y en la visitas de acompañamiento?

26. ¿El tianguis tiene un reglamento escrito para la certificación participativa?

☐ Si

☐ No

☐ No lo sé

En caso de que su respuesta sea sí.

27. Usted ¿ha participado en desarrollar dicho reglamento?

☐ Si

☐ No

28. Usted, ¿participa en la toma de decisiones sobre la certificación participativa del tianguis?

☐ Si

☐ No

29. Cuando se toma decisiones sin su participación, ¿Cuál es su opinión en relación a la comunicación de dichas decisiones?

☐

Muy Mala

[1]

☐

Mala

[2]

☐

Regular

[3]

☐

Buena

[4]

☐

Muy Buena

[5]

☐

No lo sé

30. Según su opinión, ¿qué tan importante es la participación de los siguientes actores para que el proceso de certificación participativa funcione adecuadamente? Del siguiente listado ordene los actores por orden de importancia:

Una ONG, AC u otra organización

Los productores

Los consumidores

Una universidad (académicos, técnicos, estudiantes)

Otro: _____

31. ¿Cuál es su opinión en relación al proceso de certificación de este tianguis cómo se está practicando actualmente?

☐

Muy Malo

[1]

☐

Malo

[2]

☐

Regular

[3]

☐

Bueno

[4]

☐

Muy Bueno

[5]

☐

No lo sé

32. Según usted, ¿Existen cosas que se podría mejorar respecto al proceso de certificación participativa de este tianguis? ¿Cuáles?

SECCIÓN IV: CAPACITACIÓN, INFORMACIÓN, APRENDIZAJE

33. Usted, ¿se informa sobre la producción orgánica y la certificación participativa?

☐ Si

☐ No

Pase a la pregunta 35

En caso de que su respuesta sea sí.

34. ¿Cómo? _____
35. Usted, ¿participa en los talleres del tianguis?
☐ Si ☐ No
36. Usted, ¿cómo evalúa sus conocimientos sobre:
- | | Nulo
[0] | Muy Bajo
[1] | Bajo
[2] | Regular
[3] | Alto
[4] | Muy Alto
[5] |
|--------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| la agricultura orgánica | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| la certificación participativa | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
37. ¿Conoce usted la normativa de la producción orgánica aplicada en el tianguis?
☐ Si ☐ No
38. Cuando un productor del tianguis no lleva su producción según la normativa orgánica, ¿cuáles serán las consecuencias para él?
39. Usted, ¿cómo puede informarse sobre la normativa de la producción orgánica y el proceso de la certificación participativa del tianguis?
- _____ ☐ No lo sé

SECCIÓN V: CONFIANZA

40. Indique el nivel de confianza respecto a que los productos orgánicos del tianguis sean orgánicos:
- | Ninguna
[0] | Muy Baja
[1] | Baja
[2] | Regular
[3] | Alta
[4] | Muy Alta
[5] | Completa
[6] |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
41. ¿Cómo sabe usted que los productos que compra en este tianguis son orgánicos?
(Elija solo una opción)
- ☐ la relación directa con los productores
☐ por confianza en el tianguis
☐ por materiales de información disponible en el tianguis
☐ por etiquetas y/o sellos de certificación
☐ por visitas de verificación que he hecho a las unidades de producción (Participación en la certificación participativa)
☐ tengo dudas sobre la calidad orgánica de los productos del tianguis
☐ Otra: _____
42. Según su opinión, ¿qué tan importante es tener alguna forma de certificación orgánica que respalde formalmente la confianza que puede tener con los productores del tianguis? ¡Indique el nivel de importancia!:
- | Ninguna
[0] | Muy bajo
[1] | Bajo
[2] | Regular
[3] | Alto
[4] | Muy Alto
[5] |
|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

SECCIÓN VI: PROBLEMAS

43. A lo largo de su participación en el tianguis (como consumidor o participante en el proceso de certificación participativa), ¿ha experimentado algún tipo de problema?
☐ Si ☐ No (pase a la pregunta 45)
44. En caso de que su respuesta sea sí, ¿Cuáles problemas ha tenido?
45. Según usted, ¿Existen cosas que se podría mejorar en el tianguis? ¿Cuáles?

SECCION VII: DATOS BÁSICOS

46. Edad: _____
47. Sexo
☐ femenino ☐ masculino
48. Estado Civil
☐ Soltero/a ☐ Divorciado/a
☐ Casado/a ☐ Viudo/a
☐ Unión libre ☐ Otro: _____
49. ¿Cuál es el número de personas que viven en su hogar: _____
50. ¿Cuál es el número de niños (menores a 18 años) que viven en su hogar: _____
51. ¿Cuál es su lugar de residencia? _____
52. ¿Cuál es la distancia entre su casa y el tianguis [km]?: _____
53. ¿Cuál es la forma de transporte que utiliza?: _____
54. ¿Cuál es el tiempo que tarda en llegar de su casa al tianguis [min]?: _____
55. Indique el nivel máximo de estudios cursados:

Kaufmann, Sonja. 2016. Participatory Guarantee Systems (PGS) in Mexico: An analysis of three local organic markets' PGS – status quo, challenges faced and potentials for improvement. Master thesis. University of Natural Resources and Life Sciences Vienna (Austria). <https://www.nas.boku.ac.at/ifoel/arbeitsgruppen/arbeitsgruppe-wissenssysteme-und-innovationen-agwi/>.

- ☐ Primaria incompleta
- ☐ Primaria
- ☐ Secundaria
- ☐ Preparatoria

- ☐ Universidad
- ☐ Doctorado
- ☐ Otro: _____

56. ¿Cuál es el ingreso neto en su hogar por mes [Mxn\$]?:

- ☐ < 3000
- ☐ 3000 - 5000
- ☐ > 5000 - 7000
- ☐ > 7000 - 9000
- ☐ > 9000- 11000
- ☐ > 11000 – 13000

- ☐ >13000 - 15000
- ☐ >15000 – 17000
- ☐ >17000 – 19000
- ☐ >19000 – 21000
- ☐ >21000 - 23000
- ☐ >23000

¡¡MUCHAS GRACIAS POR SU PARTICIPACIÓN!!

12.7. Interview Guideline key informants (1)

(partly adapted from Bustamante, 2016)

- Fecha de Entrevista
- Nombre del tianguis:
- Nombre del coordinador del tianguis:
- Edad del coordinador del tianguis:
- Sexo del coordinador del tianguis:
- ¿Qué tipo de estudios tiene usted?
- ¿Desde hace cuánto tiempo pertenece a este tianguis?
- ¿Cuánto tiempo tiene como coordinador del tianguis?

EL TIANGUIS

- ¿El tianguis tiene alguna forma jurídica? (Asociación civil, S.P.R.L., cooperativa, otro,...)
- ¿Cuándo se constituyó el tianguis?
- ¿El tianguis se constituyó como iniciativa de quién?
- ¿Cuál es la visión/cuáles son los retos más importantes del tianguis? (¿están definidos por escrito?)
- ¿Cuántas personas iniciaron el tianguis?
- ¿El lugar donde se encuentra el tianguis es propio/rentado/prestado?
- ¿Alguna vez han cambiado la ubicación del tianguis?
- ¿A quién pertenece la infraestructura del tianguis? ¿Cómo se financió la infraestructura? (mesas, carpas,...)
- ¿Cómo está organizado el tianguis? (comités/comisiones, tareas, integrantes, frecuencia de reuniones, frecuencia de rotación)
- ¿Cuántos integrantes tiene el tianguis? (productores/procesadores/comercializadores) ¿Cuántos puestos hay?
- ¿Cuántos productores son orgánicos?
- ¿Cuántos no son orgánicos?
- ¿Cuántos puestos de comida hay?
- ¿Cómo identifican a los productores orgánicos de los no orgánicos?
- ¿Los productores pagan alguna cuota para poder formar parte del tianguis?
- ¿Cuál es el proceso para ingresar a este tianguis?
- ¿Hay alguna carta de compromiso o otra forma de acuerdo "formal" que los productores tienen que firmar al asumirse al tianguis?
- ¿Quiénes asisten a este tianguis? (Características de productores y consumidores)
- ¿El tianguis cuenta con el apoyo de alguna universidad/A.C./ONG etc? (¿qué tipo de apoyo? ¿Desde hace cuánto?)
- ¿Cuentan con algún programa de difusión para dar a conocer al tianguis?
- ¿Cuál es la afluencia de consumidores por semana?

LA CERTIFICACIÓN PARTICIPATIVA

- ¿Cuentan con un comité de certificación participativa?
- ¿Desde hace cuándo? _____
- ¿Quiénes lo integran?
- ¿Cómo funciona CCP?
- ¿Cada cuánto tiempo certifican a sus productores? (¿con qué frecuencia hacen visitas? ¿Quiénes participan?)
- ¿Por iniciativa de quien fue que se empezó a certificar los productos?
- ¿Cómo fueron desarrollados los estándares de producción orgánica y certificación participativa? (¿A base de algún reglamento? ¿Quien participó en desarrollar dicho reglamento?)
- ¿Cómo se financia el proceso de certificación?
- ¿Hay algún mecanismo para garantizar que todos los miembros del tianguis estén familiarizados con los estándares de la producción orgánica y la certificación participativa?
- ¿Están accesibles los estándares para el público/los miembros? ¿Cómo?
- ¿Están accesibles los resultados de la certificación (dictamen, recomendaciones, reporte) para todos los miembros/el público (los consumidores)? ¿Cómo?
- ¿Cuáles son los mecanismos de documentación que ocupan? (¿se puede acceder a la documentación (miembros/consumidores) ?
- ¿En el caso que un integrante del tianguis no cumpla con la normatividad, cuales son las consecuencias? (¿están definidos por escrito?)
- CAPACITACIÓN/TALLERES
- ¿El tianguis/mercado ofrece talleres para consumidores o productores?
- ¿Obtienen algún fondo para impulsar programas de capacitación y educación de productores y consumidores?
- ¿Por parte de quien y cuál es el monto?
- ¿El tianguis pertenece a la REDAC?
- Como coordinador del tianguis, ¿Qué considera importante para que este mejore?

- Según usted, ¿cuáles son los retos principales de la certificación participativa?
- Según usted, ¿cuáles son los beneficios principales de la certificación participativa?
- ¿Cuáles piensa usted que son los factores determinantes para que el proceso de certificación participativa pueda funcionar al largo plazo?
- ¿Cuáles piensa usted que son los principales problemas y obstáculos que deben superar las iniciativas para poder funcionar al largo plazo?

12.8. Interview Guideline key informants (2)

(partly adapted from Bustamante, 2016)

- Fecha de Entrevista:
- Nombre del tianguis:
- Nombre de los integrantes del CCP del tianguis:
- Edad de los integrantes del CCP:
- Sexo de los integrantes del CCP del tianguis:
- ¿Qué tipo de estudios tienen?
- ¿Desde hace cuánto tiempo pertenece a este tianguis?
- ¿Cuánto tiempo tienen como integrantes del CCP

LA CERTIFICACIÓN PARTICIPATIVA

- Desde hace cuándo existe el CCP
- ¿Por iniciativa de quien fue que se empezó a certificar los productos?
- ¿Cada cuánto tiempo tienen reuniones?
- ¿Cada cuánto tiempo certifican a sus productores? (¿con qué frecuencia hacen visitas? ¿Quiénes participan?)
- ¿La certificación participativa del tianguis está apoyada por alguna universidad/A.C./ONG etc?
- ¿Invitan a los consumidores para participar en el proceso de CP?
- ¿Cómo se financia el proceso de certificación? ¿Hay alguna cuota que los productores tienen que pagar para ser certificados? Cuantos son los gastos/costos? (por productor/por visita)
- ¿Están accesibles los resultados de la certificación (dictamen, recomendaciones, reporte) para todos los miembros/el público (los consumidores)? ¿Cómo?
- ¿Cuáles son los mecanismos de documentación que ocupan? (se puede acceder a la documentación (miembros/consumidores)?
- ¿En el caso que un integrante del tianguis no cumpla con la normatividad, cuales son las consecuencias? (¿están definidos por escrito?)
- ¿Cómo fueron desarrollados los estándares de producción orgánica y certificación participativa? (¿A base de algún reglamento? ¿Quien participó?)
- ¿Hay algún mecanismo para garantizar que todos los miembros del tianguis estén familiarizados con los estándares de la producción orgánica y la certificación participativa?
- ¿Están accesibles los estándares para el público/los miembros? ¿Como?
- ¿Cuáles son los problemas/desafíos más grandes que están enfrentando actualmente para realizar el proceso de certificación participativa?
- ¿Cómo integrantes del CCP, que consideren importante para que el proceso de Certificación funcione bien? Según ustedes, ¿cuáles son los factores determinantes para que puede funcionar al largo plazo?

12.9. Sketches of case study markets elaborated during observation

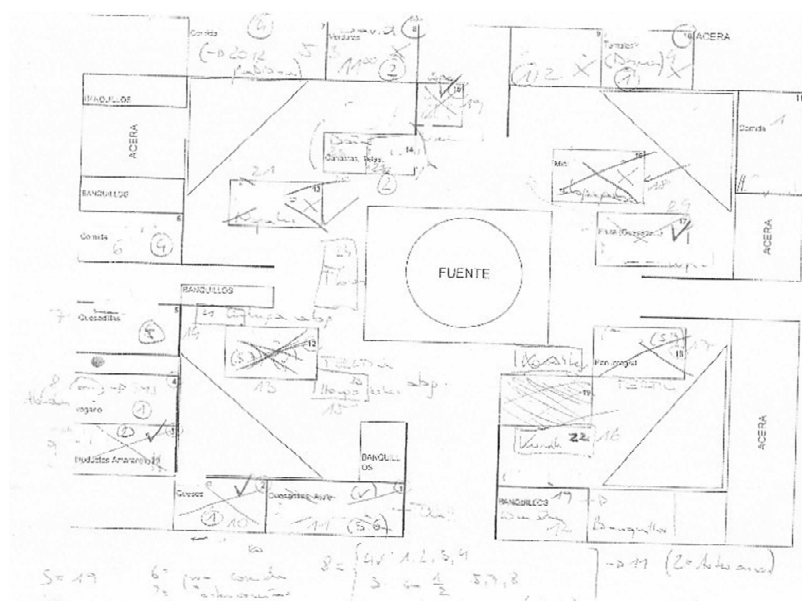


Figure 41: Sketch of Tlaxcala's alternative market elaborated during participant observation (Kaufmann, 2015)

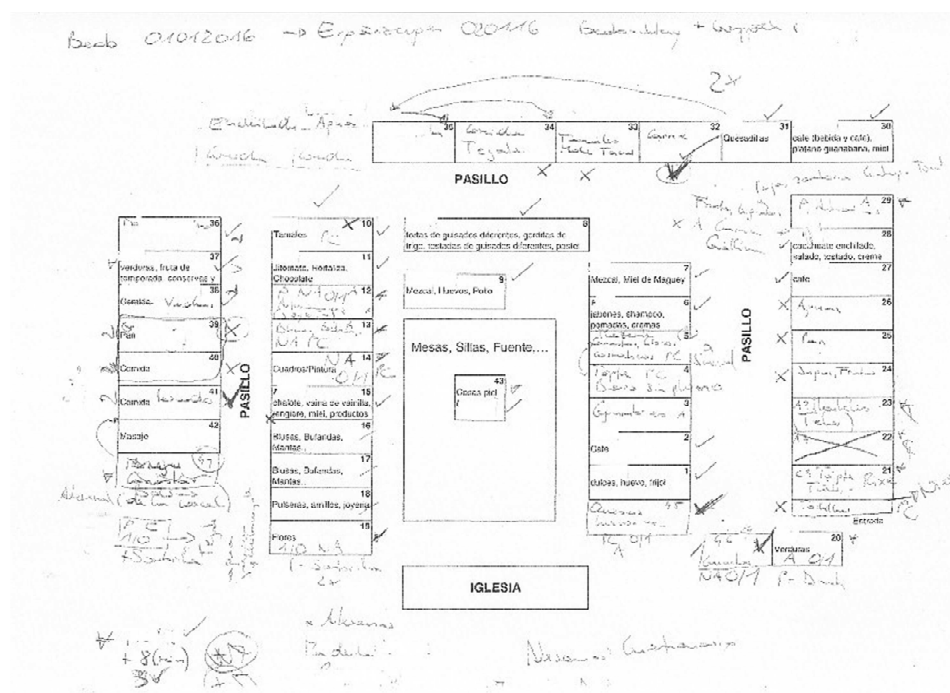


Figure 42: Sketch of Oaxaca's alternative market "*El Pochote Xochimilco*" elaborated during participant observation (Kaufmann, 2016)

12.10. Endnotes (direct quotes)

ⁱ“Esa es la visión. No la tenemos muy clara porque no hay nada escrito. O sea, todos lo sabemos, y... pero algo así escrito “Misión: artesanal”, no hay. “Visión: ...”, tampoco. Objetivos, tampoco. Es parte de lo que me toca a mí. Pero pues estoy en eso. Un año no es suficiente (KI 5/12).”

ⁱⁱ “Ah, ya. El concepto de orgánico, para nosotros estaba muy bueno, o sea es muy bueno. ¿Pero sabes, que ha sucedido? Que el concepto orgánico lo han mal usado. Y sobre todo se lo están apropiando las grandes empresas. Y se volvió de elite, o sea para gente de un nivel más alto. Y entonces por eso nosotros decidimos cambiarlo...el concepto orgánico por lo agroecológico. Y lo agroecológico abarca mucho más que lo orgánico, y es para el alcance de cualquier persona. [...] Mira, dentro de lo orgánico, para empezar, en la certificación, la certificación orgánica te la hacen a un producto, nada más. Y lo agroecológico es de una parcela. Porque tiene que ver desde la conservación de suelos y agua, desde la forma de usar este ... abonos naturales, o sea, fertilizantes, la manera de como tienes la biodiversidad alrededor de tu parcela, o sea, tiene que ver con medio ambiente, tiene que ver con la salud, tiene que ver con todo, la agroecología. Y lo orgánico no maneja estos conceptos que nosotros (KI 2/12).”

ⁱⁱⁱ “[...] ah bueno, anteriormente para tomar decisión, venimos y les comentamos a todos. Saben que, con el compañero [nombre] por ejemplo, vimos esta parte, este consideramos que no está bien, para que pueda vender, todavía hay que darle un tiempo para que mejore y se prepare y entonces ya bien. Y consecuencias como tal, no. Lo que pasa es que nosotros lo que si hacemos, es evitar conflictos. Problemas de conflictos se le llama, entre compañeros. Entonces lo que hacemos es, como siempre ser muy cuidadosos y muy claridosos de que, si puedes en este momento, adelante, pero es porque ya tiene su proceso, ¿no? ya tiene su camino andado de conocimiento y de como está. Y de cómo está aplicando las cosas. La otra parte es, que si de plano no quiere asumirlo entonces en esta parte si se dice bueno, entonces no puedes ser parte del mercado. Porque no quieres asumirlo (KI 3/11).”

^{iv} “Y entonces van a venir ahora sobre mi (KI 5/11).”

^v “Los productores o sus representantes están obligados a asistir a cursos de capacitación (IR3).”

^{vi} “El ser parte de esto es mucho tiempo, es disponer de mucho tiempo. Pero también aprendes mucho, ¿no? Nosotros somos certificación porque sabemos, conocemos las reglas, conocemos lo que es la agricultura agroecológica. Pero también, no sabes todo, o sea, al estar allí tú aprendes. De repente te dicen, mira, esto es,...esta planta sirve para esto..y tú ‘ah, pues mira?’ (KI 3/11).”

^{vii} “La verdad es que tenía otros compromisos. Pues, al comité no me invitaron. Pero si me invitan, no puedo hacer un compromiso si sé que cuando tenga otras cosas que hacer y otros compromisos, por ejemplo, vender mis productos en tal sitio...que no voy a participar en el comité porque ahí gano mas (KI 11/11).”

^{viii} “De manera informal se les dice todo, se les informa todo. Todos saben la historia de la señora de las bolsas, todos saben de los masajes. Todos saben las sanciones. Pero no he hecho asamblea. No lo he visto necesario para hacer (KI 5/11).”

^{ix} “La verdad, ella ha sido afortunada, porque como traía fruta de temporada, no se le condicionó tanto, nada más dijimos: ‘trae tu fruta de temporada y después vamos a visitar’. Entonces ahorita ya fuimos hacer la visita y le vamos a dar dos meses para darle una respuesta y le damos un escrito para observaciones (KI 3/11).”

^x “Mira, a veces es, dentro del mismo mercado es como en las familias, ¿no? En las familias ninguno es perfecto, siempre va a haber detallitos, pero tratamos de irlo resolviendo de una manera pacífica y coherente, ¿no? (KI 2/11).”

^{xi} “Otro problema a veces... no, fíjate que entre nosotros todo es muy bien, entre todos, todos nos llevamos bien. Pero siempre a veces hay diferencias de opinión también, ¿no? Como en todos lados. Entonces de repente ahí es cuando se puede, no sé.. a veces es como decir, no estoy de acuerdo en esto, pero, sin embargo, se tiene que hacer. Y es bonito porque se les hace reflexionar. En este sentido. Y lo tienen... se tiene que asumir la responsabilidad, ¿no? (KI 3/11).”

^{xii} “A eso hay que enfrentarse también. O sea, cuando menos te lo esperas te van a decir: sabes que este espacio va a ser para otra cosa. [...] Eso sí es algo, que siempre estamos con esa ... es una amenaza. Siempre estamos con esa incertidumbre, ¿no? Pero pues esperamos que no, que no se dé porqué... (KI 2/11).”

^{xiii} “Entonces cuando llegas y ves que no es como lo correcto, pues tú haces el papel ya no de amistad, ¿no? Tienes que hacer el papel de un trabajo, y el trabajo es la certificación. Entonces esa es la parte de problemas. La otra es, pues eso, a veces no quieren como integrarse a las capacitaciones, aunque sí lo saben, pero a veces les cuesta. También sienten que es como perder mucho tiempo, ¿no? Pero es parte del mercado. Lo más difícil a veces es cuando les caemos de sorpresa. Sorpresa y estamos aquí pues entonces...Entonces esa es también una parte donde digo, si estamos haciendo un trabajo, pues en hoy o mañana me vengas a visitar o no, pues debemos estar bien, ¿no?, presentando todo eso (KI 3/11).”

^{xiv} “Para que funcione más la CP? Pues, yo creo que a los del comité de certificación participativa se les tendría que dar las condiciones necesarias, como son sus gastos, y no sé si, ... a mí me gustaría si tal vez tuvieron algún pago, ¿no? - porque a veces tienen que perder todo el día y por desgracia a veces es gente que su economía no es abundante y sí necesita de trabajar, ¿no? Pero por tal vez ir a certificar a algún compañero pues ya no puede ir a trabajar o hacer sus propias necesidades entonces yo diría que podría ser eso (KI 1/11).”

^{xv} “No es tan en seguido porque también este trabajo de certificación es muy com... no complejo, pero sí te lleva mucho tiempo. Entonces también si nos dedicamos a puro certificar no podemos producir nosotros ¿no? Entonces es la parte que también combinamos (KI 3/11).”

^{xvi} “Bueno, ahorita, hacia el futuro dices, ¿para que mejore el mercado? Primero es, que logremos que todos los que integramos el mercado, no solamente nos vengamos por la parte económica, o sea, de ventas, sino que tratemos de que también fortalezcamos los procesos sociales. Eso para mí es importantísimo. Es lo que más vale de todo esto (KI 2/11).”

^{xvii} “Mira, el asunto es que hay una ley ya de certificación. Dentro de la ley de certificación hay un espacio donde dice que, sí se puede existir la CP. Pero tenemos que depender también de organismos gubernamentales, ¿no? Por ejemplo, (...) son los que como que rigen la parte de que tiene que ir por aquí la CP, sin que tengan ni la menor idea de que se trata, porque no son los que están en el campo, no son los que conocen realmente el trabajo que hacemos. Pero bueno, desde allá tiran la línea. Entonces tienes que caer dentro de los estándares que ellos te tiran. Entonces chin, eso también es complicadísimo. Pero estamos luchando por hacer incidencia. Porque eso es algo bien importante. Que tenemos que hacer incidencia en políticas. Y la incidencia se está proponiendo. O sea, esto si nos va, pero esto no va, porque no va. O sea, tenemos que argumentar y demostrar porque no. Entonces aquí también dentro del mercado se tienen que fortalecer la parte de incidencia. Entonces también nos va a dar mucho este... posicionamiento de... sobre lo que queremos y también podemos incidir a leyes y demás (KI 2/I1).”

^{xviii} “Tener el manual, todo por escrito, y sancionar. Y como les comentaba la vez pasada: todo viene con la consciencia. ‘Por favor, Sonja, si de aquí sale para mantener a tu familia, ¡haz las cosas bien! Nada te cuesta’. Son cosas que uno hace en casa. Te lavas las manos antes de comer y después de ir al baño. ¿Porque aquí no? (KI 5/I1).”

^{xix} “Se supone...para que trabaje correctamente, debemos de sentar las bases. Ahorita estamos en la planeación, apenas. Planeación de crear un manual de certificación. Para que en el momento en que [preseidente del comité de certificación participativa] no pueda estar, de todos modos, se sigan haciendo. Cuando yo no esté, cuando la mesa no esté, que se sigan ese mismo proceso, que se siga en esa misma forma de trabajo (KI 5/I1).”