

# FSMS certification in the agricultural producers group

## Certyfikacja FSMS w grupie producentów rolnych

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### Abstract

This paper presents the basic principles that should be applied during the preparation of an agricultural producers group to certify food safety management system. The presented model describes the requirements during the implementation that is preparing the system for certification and the very process of certification. What is more, the analysis of the primary risks associated with the group certification of the food safety management system in the agricultural producers group was also concluded in this paper.

**Key words:** certification, food safety management systems, agricultural producers groups, risk

### Streszczenie

W pracy zaprezentowano podstawowe zasady, jakie powinny obowiązywać podczas przygotowania grupy producentów rolnych do certyfikacji systemu zarządzania bezpieczeństwem żywności. Zaprezentowany model opisuje zarówno wymagania podczas wdrażania, a więc przygotowania systemu do certyfikacji, jak i samej certyfikacji. W pracy przeprowadzona została również analiza podstawowych ryzyk związanych z certyfikacją grupową systemu zarządzania bezpieczeństwem żywności w grupie producentów rolnych.

**Słowa kluczowe:** certyfikacja, grupy producentów rolnych, ryzyko, systemy zarządzania bezpieczeństwem żywności, ryzyko

### Introduction

It is widely assumed that the standard ISO 22000: 2005 Food safety management systems; the requirements for all the organization in the food chain is the normative international standard concerning the management of the food safety. The standard finds its vast application in the food chain as well as in all the companies cooperating with the food industry, in particular it applies to agricultural producers, feed

producers, producers of agricultural primary products, manufacturers of the food products, transport operators (logistic and transport companies), storage service providers, wholesale companies, subcontractors of aforementioned producers, zones of the retail market (shops, supermarkets), zones of food services (restaurants, bars, catering), producers of machinery and equipment, packaging materials, cleaning products, ingredients and additives, pesticides, fertilizers, medicines, dietary products, organizations providing services.

The food safety management system is an instrument that is supposed to improve food safety standards in food business operators. The standard ISO 22000 is a document containing requirements of not only implementing, but also functioning and improving the management system directed at providing customers with safe food.

Taking into consideration both the above mentioned and the place of agricultural producers in the food chain it would be advisable to propose the following stages of the certification model for the food safety management system for an agricultural producers group:

1. implementation of the food safety management system by agricultural producers, namely the verification whether the agricultural producer abides by the requirements imposed by the standard ISO 22000,
2. submission to the voluntary certification that consists in the assessment performed by the independent certifying body and confirmation of fulfilling the requirements of specified standard by issuing the relevant certificate and supervising this certificate during its validity period,
3. maintenance and improvement of the food safety management system by agricultural producers.

Within the scope of the activities connected with the point 1 and 3 producers may receive support from the scientific institutions, local governments or other non-governmental organizations. When it comes to the second point they must individually reach the decision on the submission to the certification. Taking into consideration that the activities of agricultural producers may be conducted in groups that is agricultural producers groups, which operate under the provisions of the Act of 15 September 2000 on agricultural producer groups and their unions and amending other acts (Journal of Laws, No. 88, item 983), and then the group certification is possible. The group of agricultural producers is then treated as the multi-unit organization (IAF MD 1:2007). In such a case the agricultural producers group receives a certificate for activity conducted by the group as the entrepreneur, with enumerating all the group members undergoing the certification.

### **Agricultural producers groups**

The economic state of producers' organization has been one of the weakest points of the Polish agriculture. Farmers have produced good quality crops but they sold them mainly to the different types of intermediaries (such as processing plants and trading companies) who dominated a significant part of the market. Thus, by selling their products in a disorganized way, farmers were fighting a losing battle because the offered batches of goods were generally small and often not adapted to the customers' needs and expectations.

In the European Union the agricultural producers groups constitute the fundamental elements of the structure of the agricultural market, which are organized with the participation of producers. It is very beneficial for farmers, namely they cheaply buy

## Stoma: Fsms Certification In The Agricultural Producers Group

means of (agricultural) production and sell their products at their profit. They also take over the part of value added, which is formed at the different stages of turnover and product processing.

Consequently, the market of agricultural products is becoming more and more organized also in Poland. This is mainly due to the enforcement of the Act on agricultural producer groups and their unions and amending other acts of 15 September 2000 (Journal of Laws, No. 88, item 983) and the relevant regulations of the Minister of Agriculture and Rural Development, which enabled the emerging groups to use the statutory public aid. The steady increase in agricultural producer groups is the notable effect of encouraging farmers to form groups and perform joint actions (Journal of Laws, No. 72, item 424). While in 2004 there were only 85 farmers, on 31 December 2007 in Poland there were 252 agricultural producer groups comprised of nearly 6.000 agricultural producers, while at the end of 2010 – 639, including agricultural producers groups which entered in the registers of groups led by the Marshal Offices (Rural Development Programme for 2007-2013), as it is shown in Figure 1.

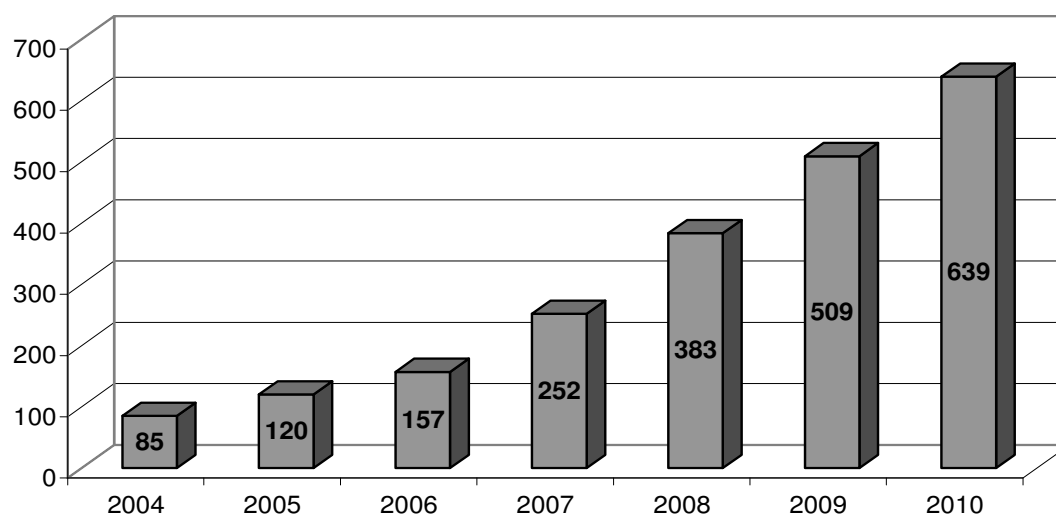


Fig. 1. Number of agricultural producers groups in Poland in years 2004-2010

Source: self-study based on the registers of groups led by the Marshal Offices in Poland (available at:

[http://ksow.gov.pl/fileadmin/user\\_upload/ksow.pl/pliki/GPR/Wykaz\\_GPR\\_-\\_31.12.2010\\_r.pdf](http://ksow.gov.pl/fileadmin/user_upload/ksow.pl/pliki/GPR/Wykaz_GPR_-_31.12.2010_r.pdf) and

[http://www.minrol.gov.pl/pol/content/download/29134/162057/file/WYKAZ\\_GPR\\_05.09.2012.pdf](http://www.minrol.gov.pl/pol/content/download/29134/162057/file/WYKAZ_GPR_05.09.2012.pdf))

## FSMS requirements in the agricultural producers groups

The application of the certification of the multidimensional organization for the agricultural producers group is possible only in the case when the organization is comprised of at least twenty agricultural producers because the application of the principles of this certification for the organization consisting of less than twenty branches is not possible (ISO/TS 22003:2007 Food safety management systems -- Requirements for bodies providing audit and certification of food safety management

systems). In such a case, each member of the group should be treated as an independent organization undergoing the certification.

The organization uniting the group of agricultural producers is the fundamental element and factor that combines the implementation and subsequent functioning of the food safety management system. The decision on the certification of the food safety management system and all decisions related to the so-called management responsibility should be made at the management level of the group (Fig. 2) (ISO 22000:2005 Food safety management systems; the requirements for organization throughout the food chain).

The next point of the implementation of the food safety management system is appointing of a coordinator of the food safety management system, at the level of the organization uniting the agricultural producers, who will perform the role of the chairman of the food safety team (ISO 22000:2005 Food safety management systems; the requirements for organization throughout the food chain). In such situation, many organizations during the implementation of the food safety management system wonder whether it is better to employ a specialist in the food safety management system or to train their own employee. It is difficult to provide an unequivocal answer to this question. However, it is advisable that the person responsible for the food safety management system should possess the adequate knowledge and experience in the field of: production carried out in the agricultural producers group; application of legal regulations applied to the given agricultural producers group; identification of actual and potential threats to the food safety, for the given industry. They should also have knowledge of the regulations in the food safety management system including the principles connected with the creation and subsequent supervision of the food safety management system. They should also know how to conduct the internal audits of the food safety management system.

In order to improve the communication and take efficient actions in the area of the food safety management system, it seems necessary to appoint a plenipotentiary for the food safety management system for each agricultural producer. The designated persons would be responsible for the implementation and subsequent functioning of the food safety management system of the agricultural producer.

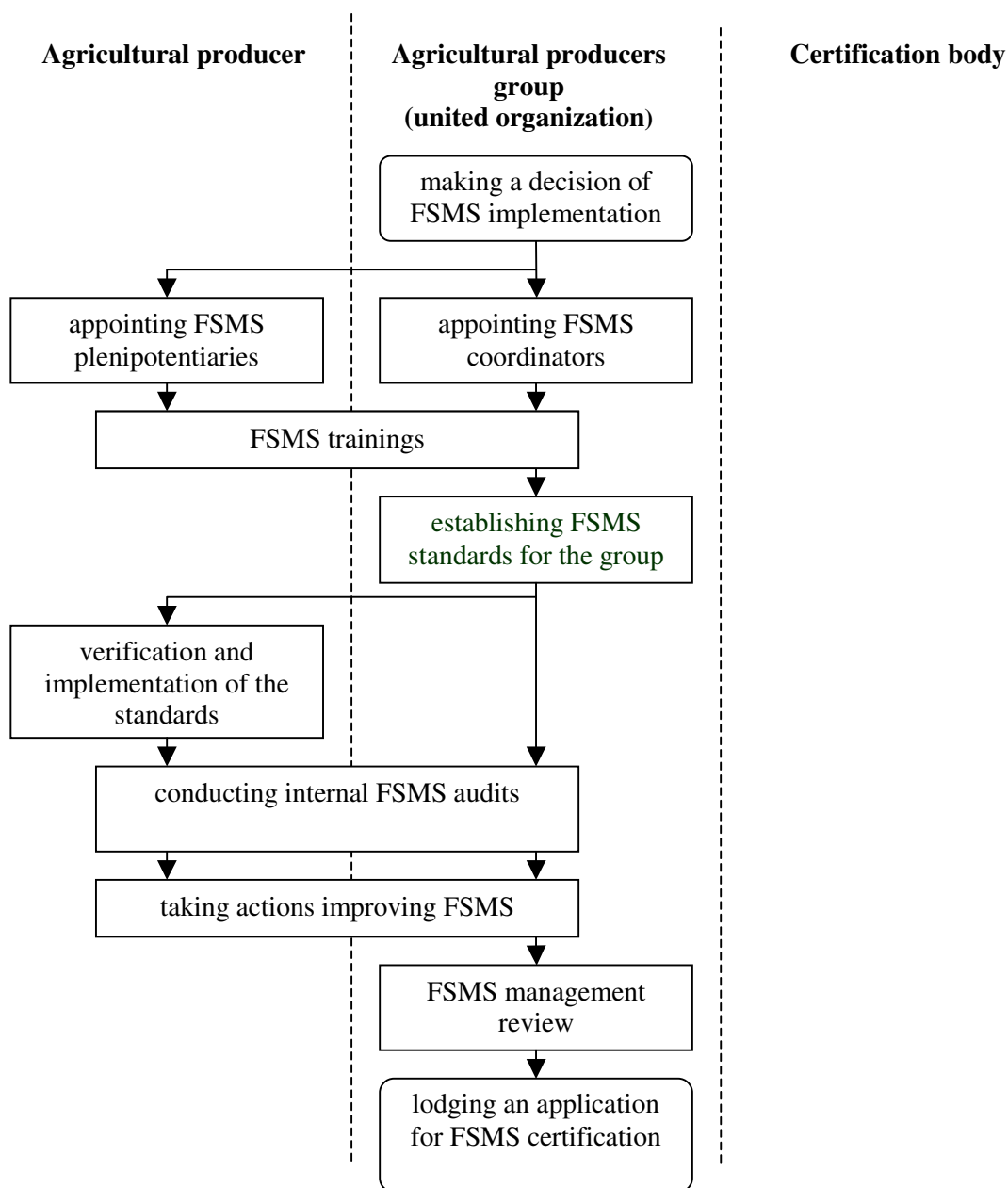


Fig. 2. The model of the certification of the food safety management system for groups of agricultural producers, for first stage – the implementation of the food safety management system FSMS Source: self-study

The next stage is training, including not only the food safety management but also issues related with the improvement of the product manufactured by the agricultural producers group. Realized trainings generate the smooth transition to the element that can be called establishing standards for the agricultural producers group. On the figure 2 the establishing of standards was assigned to the organization consisting of the agricultural producers group, nonetheless such standards should be established within the scope of the entire agricultural producers group, unless they are determined by the legal requirements or by customers of the agricultural producers group. The standards developed in such way should be implemented by agricultural

producers who are in the group. The permanent supervision over the adaptation of the individual agricultural producer to the established standards should be led, as it was already mentioned above, by the coordinator of the food safety management system.

For supervision over the course of the implementation of the food safety management system, the following verification tools should be applied:

- internal audits – their task is to evaluate if the food safety management system complies with the assumptions, if it meets the requirements established by the agricultural producers group towards the food safety management system and legal requirements,
- evaluation of the results of individual verifications – the evaluation of the results should include: the implementation of preliminary programs, the input data for hazard analysis, elements of the HACCP plan, the levels of threats in the scope of identified acceptable levels and the level of implementing procedures,
- analysis of the results of verification actions – that is, the evaluation of the effectiveness of activities as well as the evaluation of trends indicating the growth of potentially dangerous products and identifying the need of the update or the improvement of the food safety management system.

Undertaking the review of management in the agricultural producers group and the submission of the application for the certification to the certifying body are the summary of the implementation of the food safety management system.

### **The requirements for the bodies certifying FSMS in the agricultural producers groups**

The requirements that bodies who issue certificates to the food safety management systems have to fulfill are based on two main principles. Firstly, there are the requirements for the certifying body, as for an organization, so called technical requirements. Secondly, there are the requirements for participants in the process of certification and supervision, defined as competency requirements.

The technical requirements imposed on the bodies who issue certificates to the management systems operate on two levels: international, namely the normative standards or requirements such as the ones of International Accreditation Forum (IAF); and national, namely the requirements of national accreditation units or provisions of law.

When it comes to the competency requirements, imposed on participants in the certification process, they should be determined for the following stages of the certification process:

1. application for certification review – it is directly related to the further course of the certification process because it is mainly responsible for human resources planning for the next stage, that is for audit (Stoma 2009),
2. certification audit – has two stages and consists in the evaluation of the food safety management system of the certified organization,
3. decision making on certification – this stage consists of the evaluation of the course of the certification audit, combined with the re-evaluation of the application for certification and making a decision to accredit the certification (Stoma 2010).

The requirements for the audit team members are specified in numerous standardization documents; the most important are: ISO 17021 (ISO/IEC 17021:2011



Conformity assessment. Requirements for bodies providing auditing and certification of management systems), ISO/TS 22003 (ISO 22003:2007 Food Safety Management Systems, Requirements for bodies providing audit and certification of food safety management systems), ISO 19011 (ISO 19011:2002 Guidelines for quality management systems auditing and/or environmental management), which define the following basic requirements:

- education - the body which accredit certification to the food safety management systems should require from its auditors at least secondary education, including the rudiments of microbiology and chemistry, for instance when it comes to plant cultivation they should have education in the field of production of agricultural products
- training and courses in the field of food safety management - the certifying body should require from its auditors who are auditing the food safety management systems to complete courses in specific areas of the food chain industry, in which they carry out audits of food safety management system,
- training and courses in the area of conducting the audit - the certifying body should require from its auditors who are auditing the management systems, including food safety management systems, to complete the specialized courses in note taking and writing the audit report. They should also require from auditors: skills in auditing techniques, skills in the presentation of audit results and skills in audit supervision,
- auditing experience - the body who accredit food safety management systems should require from its auditors to perform, in the last three years, audits of the food safety management system that would last at least twelve days and would be conducted in at least four organizations,
- knowledge of business management practices - the certifying body should demand appropriate knowledge and practices in business management of its auditors, who are auditing the system of food safety,
- personality requirements for an auditor - they should be: ethical, open, diplomatic, observant, perceptive, flexible, tenacious, determined and independent.

The bodies who issue certificates to the management systems are confronted by significant problems, namely the competency requirements for persons involved in evaluation of a certificate application and for persons who decide about the certification. Therefore, it requires clarification of the competency requirements for these stages of certification, that is: the competences for persons involved in the evaluation of a certificate application (auditing experience, and training and courses in the field of the food safety management) and the competences for persons participating in decision making process about certification (training and courses in the field of food safety).

### **The model of the food safety management system for the agricultural producers groups**

As it was mentioned, the model of the food safety management system certification should involve three main stages:

Stage I – the implementation of the management system – this stage is connected with the activities of the organization of the agricultural producers group and the agricultural producers themselves (Fig.2),

Stage II –the food safety management system certification,

Stage III – the supervision over the currently functioning food safety management system (Fig. 3).

The following principles and requirements are fundamental to develop a model of the food safety management system certification for agricultural producers groups:

- Deming Cycle: PDCA – Plan, Do, Check, Act (ISO 9001:2008 Quality management systems - Requirements),
- normative requirements for the food safety management system of ISO 22000,
- international requirements for certifying bodies: ISO/IEC 17021:2011 Conformity assessment. Requirements for bodies providing auditing and certification of management systems,
- international requirements for bodies who issue certificates to the food safety management systems ISO 22003 (ISO 22003:2007 Food Safety Management Systems, Requirements for bodies providing audit and certification of the food safety management systems),
- requirements of the national accreditation body, for instance Polish Centre for Accreditation, for certification bodies who certify management systems in Poland DAC-08 [DAC-08].

Stages II and III consist of the classic elements that are required during the management systems certification. Cooperation with the certifying body begins when the formal application for certification is filed. This application for certification is formally evaluated by the certifying body, which appoints an audit team to conduct audits in the agricultural producers group. International standards require conducting the two-stage certification audit, which is the first audit after lodging the application for certification (Stoma, et al., 2011). The first stage of the audit should be conducted in the organization of an agricultural producers group and should cover the following issues:

- evaluation of the food safety management system documentation adopted by the agricultural producers group,
- assessment of the location of members of the agricultural producers group and specific conditions of the location,
- conducting interviews with employees of the organization of the agricultural producers group in order to determine the degree of implementation of the food safety management system and the group's readiness to pass to the second stage of the audit,
- review of the status of an agricultural producer group and group's understanding of food safety management system requirements, especially when it comes to the identification of key aspects connected with food safety,
- gathering the necessary information concerning the functioning of food safety management system together with its statutory and legal aspects and information about the compliance with the requirements (e.g. quality, environmental, client legal activity aspects and its associated risks, etc.),
- a review of allocation of audit resources for the second stage of the audit and agreement with the organization of the agricultural producers group details of the second stage of the certifying audit,
- planning of the second stage of the audit by achieving a sufficient understanding of the food safety management system and by activities undertaken by agricultural producers in the context of possible significant aspects,
- checking, whether the internal audits of the food safety management system and management reviews are being planned and conducted,
- verification of the level of food safety management system implementation.



The termination of the first stage of the certification audit is performed by lead auditor, who manages an audit, and it consists in submitting comments about the functioning of the food safety management system within the agricultural producers group. The lead auditor issues the information, together with the comments, concerning the second phase of the certification audit. These comments may concern the food safety management system operation in the organization of the agricultural producers group as well as at agricultural producers themselves. While the first stage of the audit may be conducted only in the organization of the agricultural producers group, the second stage must be planned and performed both within the organization of the agricultural producers group as well as at selected agricultural producers. The size of the sample, which should be examined during the second stage of the audit, is the following:

- up to 20 agricultural producers united in the group of producers - during the audit all agricultural producers shall be examined,
- from 21 to 25 agricultural producers united in the group - 21 producers shall be examined,
- from 26 to 30 agricultural producers united in the group – 22 producers shall be examined,
- more than 30 agricultural producers united in the group - the number of producers is determined in accordance with the principle ISO 22003.

After reporting, by the organization of the agricultural producers group, the removal of the observations the lead auditor shall determine the date of the second phase of the certification audit (Stoma, et al., 2011).

We may assume that 25 agricultural producers, who employ on average 5 people, are subjected to the food safety management system certification. If the employees were certified individually the certification audit would last a man day [ISO/TS 22003:2007]. If the same agricultural producers were certified in groups the audit would last 11 audit days [ISO/TS 22003:2007]. Due to the fact that the majority of certifying bodies use the rule of calculation of the certification cost on the basis of the number of the audit days, one may assume that the certification cost of the agricultural producers group mentioned should be half of the certification cost of each producer individually.

It is widely known that management systems certification is granted for a term of three years. During this period, after a two-step certification audit conducted by a certifying body, this body is obliged to perform two supervision audits (Fig. 3).

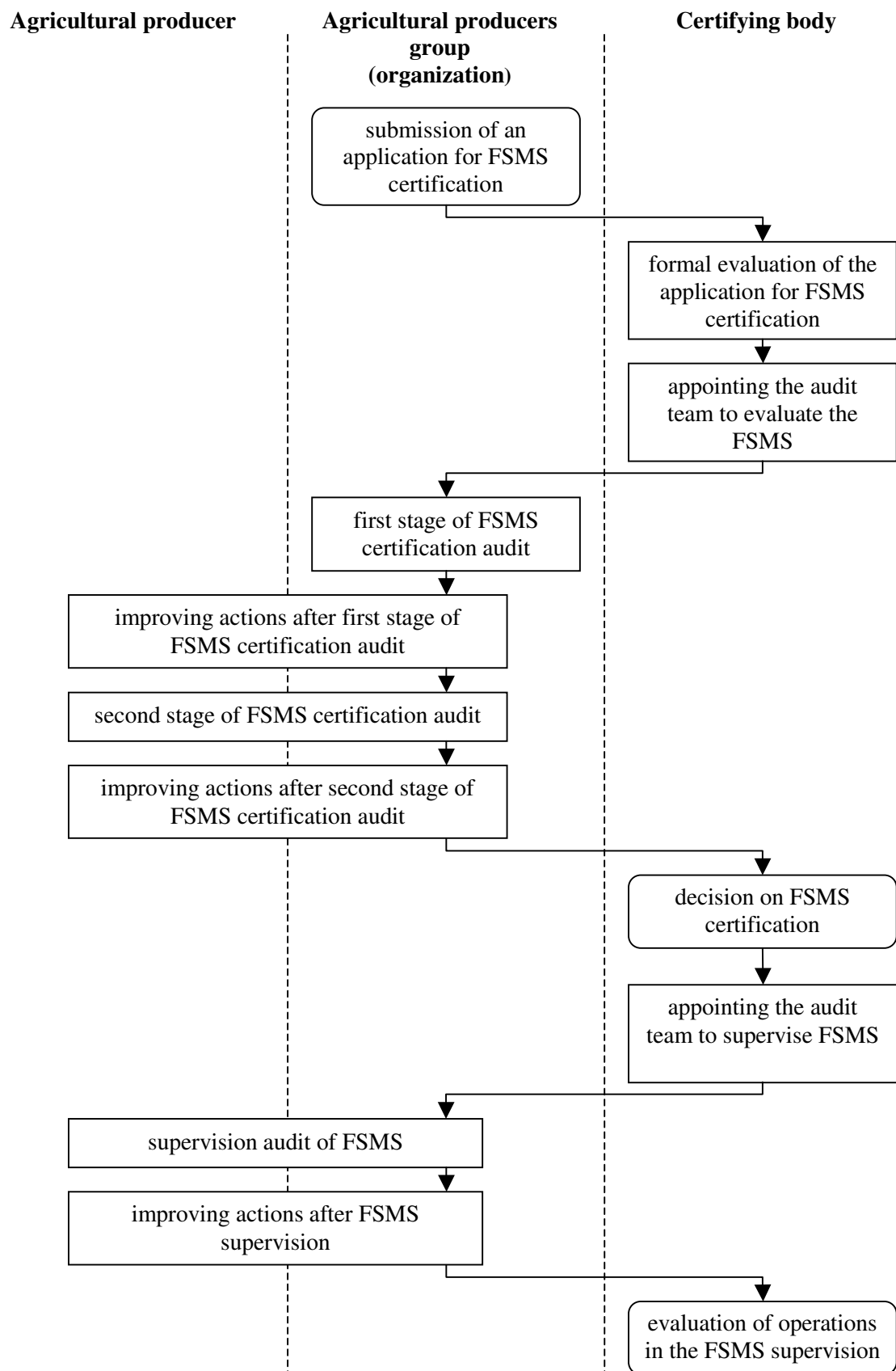


Fig. 3. The model of the food safety management system certification for agricultural producers groups, for second and third stages – certification and supervision over the food safety management system FSMS Source: self-study

## The risk assessment

In order to simplify conclusions from the risk assessment of the agricultural producer group certification in the scope of the food safety management system, the area that is under the influence of the food safety management system has been limited to: organization of the agricultural producers group, agricultural producers who are the members of the group, customers of agricultural producers group and body that issue certificates to the food safety management system (Fig. 4). The bodies such as: state institutions connected with food safety, the body that accredits the certifying body to the food safety management system assessment as well as the customers of customers of agricultural producers groups that is the consumers, were omitted.

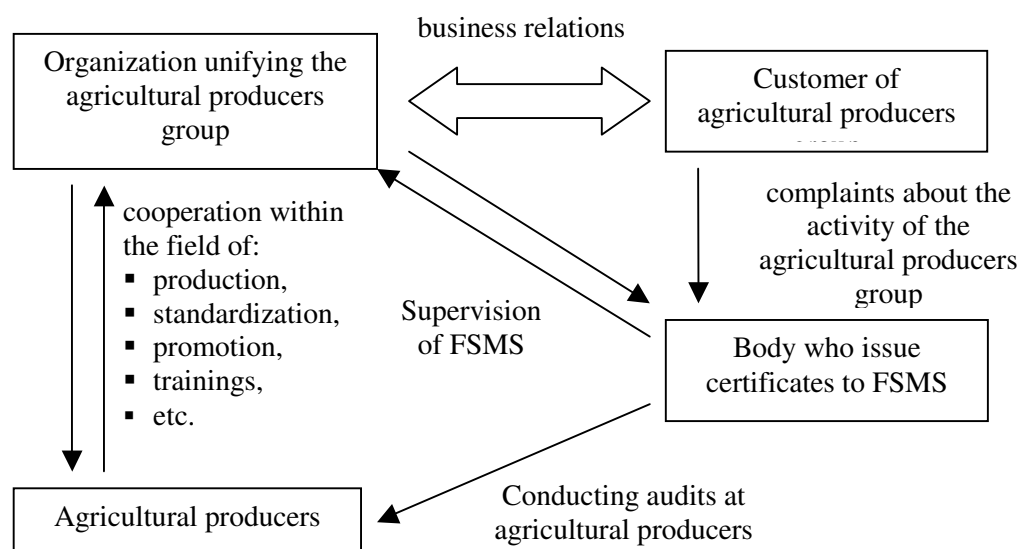


Fig. 4. Relations that foster during the certification and the supervision process of the food safety management system in the agricultural producers group Source: self-study.

In order to evaluate the risk connected with the food safety management system group certification different sorts of risk should be distinguished. Firstly, there is the risk of the certifying body that is connected with the certificate accreditation to the food safety management system for the agricultural producers group, in which not all agricultural producers can meet the certification requirements. Secondly, there is the risk of the organization unifying the agricultural producers group, which is connected with the fact that individual members of the agricultural producers group do not abide by the requirements of the food safety management system and thereby it poses a very probable threat of creating a dangerous product. Finally there is the risk of united agricultural producer, which is connected with the rejection of products of

other agricultural producer from the group, what may undermine the reliability of certification.

To sum up, it seems that the three cases presented above which are connected with the risk for the three parties concerned are very consistent. What is more, one may assume that properly conducted assessment of the food safety management system by the certifying body exerts a considerable impact on the perception of the food safety management system by all interested parties.

### Conclusions

It should be stated that the application of the certification model for the food safety management system for agricultural producer groups may lead to desired action in the group:

- standardization of processes in the agricultural producers group,
- "growth of the quality" of the weaker members of the agricultural producers group,
- increase of the competitiveness of the agricultural producer groups in the market,
- supervision of the organization of agricultural producers group of the food safety at every agricultural producer affiliated,
- supervision of the certifying body of all affiliated manufacturers in the agricultural producers group,
- internal benchmarking in the agricultural producers group.

However, there may appear some risks associated with using the group certification model. We may enumerate here the lack of an individual certificate of food safety management system, the imposition of standards established in the group as well as the imposition of rates established for the group.

The application of the food safety management system group certification for an agricultural producers group is a desired action from the perspective of all interested parties, especially from the standpoint of customer of the agricultural producers groups, the application of such a certification model for the food safety management system, which provides double supervision of agricultural producers, that is the internal supervision of an organization united the agricultural producers group as well as external monitoring performed by the body who issues certificates to the food safety management system, significantly reduces the risk connected with the food hazard.

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