



Safety and Quality Assurance and Management Systems: Level of Implementation in Food Enterprises in Poland

A.Strada, G.Morkis¹, J.Trafiałek² and D.Kołożyn-Krajewska³

7.1 INTRODUCTION

Chapter 7 focuses on the level of implementation of safety and quality systems in Polish food enterprises, which is a more specific continuation of Chapter 6 on the existing mechanisms of safety and quality assurance and management. Section 7.2 attempts to overview the main aspects of Polish food legislation as regards safety assurance systems. Section 7.3 provides a general synopsis as regards Polish food companies. Section 7.4 is devoted to the safety and quality assurance and management systems in Polish food enterprises, based on the research studies carried out in Poland. The main objective to report on these studies is to demonstrate the state-of-the-art of Polish food industry as regards the level of implementation of the selected safety and quality systems (as described in the previous chapter) before and after the EU accession. Thus, the authors did not attempt to focus on detailed

1 Institute of Agricultural and Food Economics

2 Agricultural University of Warsaw, Dept. of Food Technology and Hygiene, Faculty of Human Nutrition and Consumption

3 Agricultural University of Warsaw, Dept. of Food Technology and Hygiene, Faculty of Human Nutrition and Consumption

methodological aspects of the research, yet rather on simple presentation and interpretation of data as the amount percentage of enterprises (not) having implemented the systems (alongside the factors influencing it) and (not) holding the certificates, inter alia.

7.2 POLISH FOOD LAW

Till 1995, the problem of quality and safety of foodstuffs in Poland had been regulated by national food legislation, which only specified the most fundamental requirements regarding microbial and chemical food hazards. All food manufacturers had to comply with these requirements, yet the overall approach towards food quality and safety issues had nothing to do with today's systemic solutions. The first steps in implementation of food safety assurance systems (GMP/GHP and HACCP) in Poland took place in the first-half of 1995, following the legal requirement of Directive 93/43/EEC. From then on, implementation of GMP/GHP and HACCP systems has become obligatory for the EU food enterprises. Thus, the first food companies in Poland which began the implementation were those of meat sector, followed by dairy sector, which exported their products to the EU markets.

The first Polish act obliging implementation of HACCP in Poland was 22 August 1996 Regulation of Health Ministry introducing HACCP as obligatory for food supplements and dietetics. Then, Act of 11 May 2001 on Health Conditions of Food and Nutrition introduced HACCP as obligatory at first for large enterprises, and in the following amendments for medium and small ones. It clearly states that they would begin the HACCP implementation activities before the EU accession 1 May 2004. The latest amendment (30 October 2003) of the Act indicates that all food enterprises, including small firms dealing with food production, processing, serving, transporting and/or packaging are obliged to implement the system.

At present, the new act is in the process of preparation (Act of Safety of Food and Nutrition) and will come into force 1 January 2006 and replace the Act of 11 May 2001 on Health Conditions of Food and Nutrition. Act of 11 May 2001 on Health Conditions of Food and Nutrition (as amended 30 October 2003) require all food companies to implement the HACCP system, yet does not indicate the deadline. However, according to a new 29 April 2004 Regulation of the European Parliament and the Council on the hygiene of foodstuffs (no

852/2004/EC), the final date for the fully implemented HACCP system would be 1 January 2006. Thus, those food companies who have not yet started the implementation have little time to accomplish this task. It can be stated that as of July 2005, Polish food law has been harmonized with the EU regulations as regards food safety issues.

The implementation of the safety assurance systems needs to be officially supervised. In Poland, it falls under the responsibility of several state inspections. The ones responsible for controlling the implementation of HACCP in Poland include the following:

- State Sanitary Inspection (HACCP in non-meat production);
- Veterinary Inspection (HACCP in meat production).

7.3 FOOD ENTERPRISES IN POLAND

After the accession of Poland to the EU countries no significant changes have been observed as regards the entitative structure of food enterprises. This was due probably to the fact that the structure had been already stabilized before the enlargement. Yet, Table 7.1 presents the number of food enterprises in Poland right before and after the EU accession. An increase in the number of food companies in 2005 comparing to the year 2003 is likely to have been caused by the following factors:

- New outlets after the EU accession;
- Leaving the “grey area” by some food enterprises (particularly micro and small enterprises);
- Necessity to registration of one-person firms and so called family businesses;
- Creating of producers’ groups.

Small and micro enterprises deserve particular attention as they constitute altogether the largest group of food companies in Poland (Table 7.1).

Table 7.1 Number of Food Enterprises in Poland in 2003 and 2005 (Statistical Yearbook of Industry 2003 & 2004, unpublished data of Central Statistical Office of Poland)

Types of enterprises	2003	2005
Micro enterprises (1-9 workers)	12638	21902
Small enterprises (10-49 workers)	5353	7102
Medium enterprises (50-249 workers)	1255	1499
Large enterprises (more than 250 workers)	270	314
Small and medium (SMEs)	6608	8611
TOTAL	19516	30817

7.4 LEVEL OF IMPLEMENTATION OF FOOD SAFETY AND QUALITY SYSTEMS IN POLISH FOOD ENTERPRISES

Growing consumers' concerns as regards food safety and quality, increasing competition at the marketplace and the legal requirements of the EU food legislation, formed an incentive for food companies to improve safety and quality of their products through implementing the quality and safety assurance and management systems. It may subsequently raise the question regarding which systems, and to what degree, have been implemented before and after the EU accession by food enterprises in Poland.

The present section attempts to address this issue by describing two studies carried out by two independent institutions. Study 1 reports on the outcome of the research conducted by Agricultural University of Warsaw on food enterprises, while Study 2 describes survey conducted by Institute of Agricultural and Food Economics on certification companies (based on the interviews on how many companies applied for certification). As regards the safety and quality assurance and management systems implemented, Study 1 refers to the obligatory HACCP, which is the most popular amongst food companies in Poland, while Study 2 covers apparently all the systems, yet focuses solely on the number of certificates attained by Polish food enterprises.

It is worthy to note that both studies, albeit conducted independently, covered apparently the same period of time and consisted of two phases which can be referred to as follows: (1) pre-accession phase conducted before the EU accession 1 May 2004, and (2) post-accession phase carried out after the

accession 1 May 2004. This coincidence in similarity of timing and subject, as well as the fact that one of the studies involved certifying organisations, while the other food enterprises, allow better insight into the situation. Post-accession phase of Study 1 has not yet been fully accomplished, thus the outcome will not be reported here. Table 7.2 illustrates the summary objectives of each study alongside their methodological aspects and timing.

Table 7.2 Study 1 Pilot, Study 1 and Study 2 objectives, time and methodology

Subject focus	Objectives	Timing	System focus	Data collection	Key informant
Study 1 Pilot: Food enterprises in Poland (by Agricultural University of Warsaw)	To analyse level of implementation of HACCP and/or GMP/GHO in companies of different size and various food sectors	(1) Pre-accession phase: December 2002- June 2003	Safety assurance systems (HACCP, GMP/GHP)	Phone interviews	Production manager HACCP expert Company owner/director
Study 1: Small and medium food enterprises in Poland (by Agricultural University of Warsaw)	To analyse level of implementation of HACCP and/or GMP/GHO in small and medium food companies before and after the EU accession	(1) Pre-accession phase: January 2004 – April 2004 (2) Post-accession phase: May 2004 – present	Safety assurance systems (HACCP, GMP/GHP)	Phone interviews and mail questionnaire	Production manager HACCP expert Company owner/director
Study 2: Certifying organizations in Poland (by Institute of Agricultural and Food Economics)	To analyse number of certificates granted to various food companies in Poland before and after the EU accession	(1) Pre-accession phase: May 2002 – July 2002 (2) Post-accession phase: May 2005 – July 2005 (a year after the accession)	Safety and quality (HACCP, GMP/GHP, ISO 9000, ISO 14000, BRC, IFC, IQM Systems)	(1) Pre-accession phase: internet questionnaire (2) Post-accession phase: mail questionnaire	Director Quality management systems expert

7.4.1 Study 1 Pilot: HACCP Implementation in Food Enterprises in Poland

As indicated by Table 7.1, Study 1 was preceded by the pilot phone interviews (December 2002 to June 2003), to obtain a more general picture as regards HACCP and GMP/GHP implementation in the food industry in Poland before the EU accession. It was considered as a preliminary stage of the research described in Study 1, covering all types of food enterprises: small including micro (up to 49 workers), medium (50-249 workers) and large (more than 250 workers) across various food industry sectors. The pilot outcome (phone interviews) revealed that most of the food companies who had implemented HACCP were large enterprises (60%), followed by medium ones (31%) and small and micro food enterprises with the lowest ratio of those with the system already implemented before the EU accession (6%). The results allowed for drawing several conclusions as regards the research directions to be taken in the next stage of the survey. Due to the fact that the large enterprises recorded a very high percentage of those with HACCP already implemented or at the final stage of implementation, they have been excluded from the subsequent stage.

7.4.2 Study 1: HACCP Implementation in Medium and Small⁴ Food Enterprises in Poland

Table 7.3 and Figure 7.1 report the results of the next stage, phone interviews⁵ conducted with 201 small and 245 medium food enterprises (SME), across different food sectors. The outcome of this survey was apparently the same as in the preceding pilot analysis: before the EU accession, 30% of medium food companies and only 6% of small and micro ones had implemented the HACCP system. Large companies have been excluded from this phase. Per food industry sectors, among the small food enterprises investigated, the greatest number of companies with HACCP came from the sectors such as beverages, tea & coffee (13%), fishing (11%) and fruit & vegetable (10%).

4 Up to 49 workers, thus, it also embraces micro (up to 9 workers) food enterprises, without further distinction.

5 The survey consisted of two steps: (1) phone interviews (more general questions e.g. was HACCP implemented or not) and obtaining agreement from the key informant for participation in mail questionnaire survey, and (2) mail questionnaire (more in-depth questions about motives for HACCP implementation, *inter alia*).

On the other hand, on average 95% of the small companies of poultry, dairy, cereals & cereal products, bakery & confectionary as well as chilled & frozen foods sector, did not implement HACCP. In case of the medium-size food enterprises with HACCP, the leading sectors were fruit & vegetable (53%) as well as the sugar industry (50%). The remaining sectors did not achieve particularly high scores in this respect.

Table 7.3 HACCP implementation in small and medium food enterprises in Poland per selected food industry sector as of 30 April 2004 (Trafiałek J. & Kołożyn-Krajewska, D. 2005)

FOOD SECTOR	HACCP in small food enterprises (30/04/2004)					HACCP in medium food enterprises (30/04/2004)				
			Imple-mented (%)		Not imple-mented (%)			Imple-mented (%)		Not imple-mented (%)
	N	N ₁	N ₁ /N	N ₂	N ₂ /N	N	N ₁	N ₁ /N	N ₂	N ₂ /N
bakery & confectionary	19	1	5%	18	95%	15	2	13%	13	87%
meat	26	2	8%	24	92%	17	3	18%	15	82%
poultry	15	0	0%	15	100%	19	7	37%	12	63%
fruit & vegetable	31	3	10%	28	80%	17	9	53%	8	47%
dairy	21	0	0%	21	100%	24	5	21%	19	79%
fish	18	2	11%	16	89%	17	5	29%	12	61%
beverages	16	2	13%	14	87%	24	5	21%	19	69%
chilled & frozen foods	20	1	5%	19	95%	24	8	35%	15	65%
cereal & cereal products	17	0	0%	17	100%	22	6	27%	16	73%
food components	18	1	6%	17	94%	22	8	36%	14	64%
sugar	-	-	-	-	-	20	10	50%	10	50%
potato	-	-	-	-	-	13	3	23%	10	77%
oil	-	-	-	-	-	11	4	36%	7	64%
TOTAL	201	12	6%	189	94%	245	75	30%	170	70%

N₁ – Number of enterprises per each sector with implemented HACCP; *N₂* – Number of enterprises per each sector which had not implemented HACCP; *N* – Number of food enterprises investigated per each sector

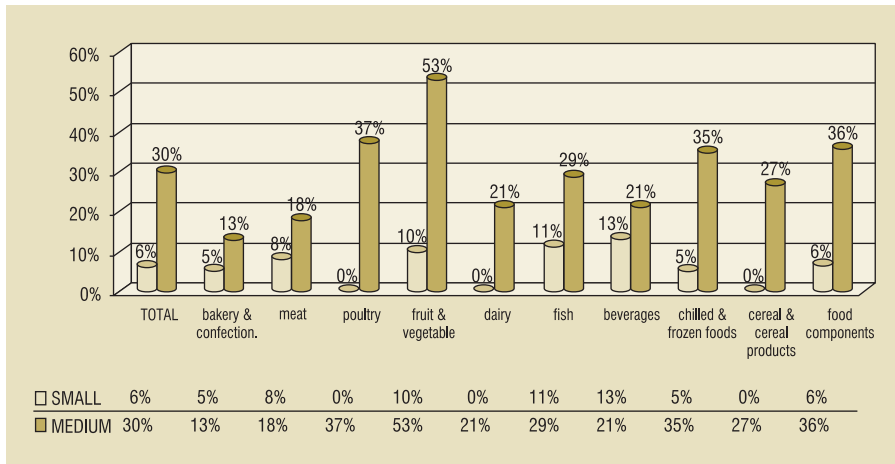


Figure 7.1 Chart of the HACCP implementation in small and medium food companies across various food sectors before the EU accession (Trafiałek J. & Kołożyn-Krajewska, D. 2005)

The subsequent stage of Study 1 was a mail questionnaire survey on the small and medium food enterprises, containing more in-depth questions (e.g. regarding motives for implementing the safety assurance systems). As mentioned before, the Study 1 data presented and described in this chapter involves only the pre-accession phase of the research, as the post-accession one has not yet been fully accomplished. In addition, despite the fact that the overall mail questionnaire survey of Study 1 covered both medium and small enterprises in Poland, the below section (7.4.2.1-4) will focus specifically on the small food companies, for the reasons that: (1) they recorded much lower percentage of those with HACCP than the medium ones (Table 7.3, Figure 7.1), and at the same time, (2) they constitute the largest group (in terms of the number) of enterprises in Poland (Table 7.1). The total number of subjects investigated in this stage reached 189 small companies who agreed to participate in mail questionnaire survey after the phone interviews (some of them refused). Although the below presented results are based on the pre-accession phase only, they still form an interesting picture as regards the implementation of HACCP in small Polish food firms, allowing to extract some practical implications of what should be done in order to improve the situation.

7.4.2.1 Outcome 1: HACCP implementation in small food companies

According to the results (Figure 7.2) only 6% of small plants produced food based on the HACCP method, while only 20% were implementing the system. The remaining 74% of the small food enterprises in Poland neither appeared to have already implemented HACCP, nor had even started the process of implementation. Albeit not being presented in the chart below, of 20% declaring to be in the process of HACCP implementation, 70% were at an early stage, while only 11% were finalizing the process.

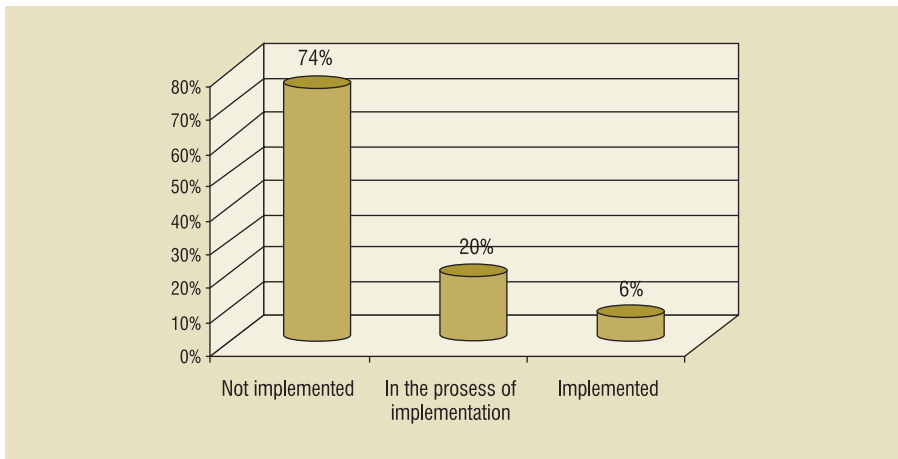


Figure 7.2 Chart of the HACCP implementation in small food companies before the EU accession (Trafiałek J. & Kołożyn-Krajewska, D.)

7.4.2.2 Outcome 2: Factors influencing implementation of HACCP in small food companies

Nearly 90% chose to begin HACCP implementation following the requirements of the 30 October 2003 Amendment of the Act on Health Conditions of Food and Nutrition. This was the foremost reason for implementing the system. 34% of the companies implemented HACCP to meet the requirements of their customers. Those who already had the system implemented or in the process of implementation (usually medium firms constituting the customers of the small ones), would request the same from their suppliers. Implementation of HACCP was important for only 15% of the respondents interested for selling in the domestic market, and for 11% interested in supplying their products to foreign markets.

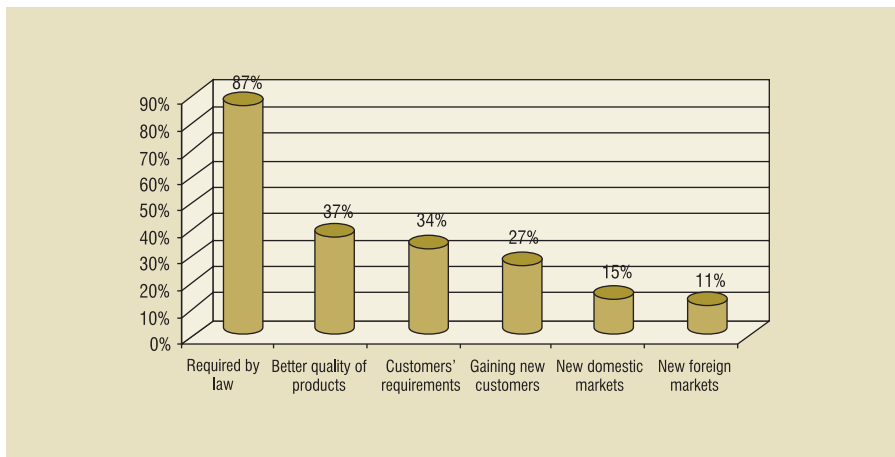


Figure 7.3 Chart of the factors influencing implementation of HACCP in small food companies before the EU accession (Trafiałek J. & Kołożyn-Krajewska, D.)

7.4.2.3 Outcome 3: Sources of information about HACCP for small food companies

Professional journals constituted the primary source of information, as 40% of the respondents declared using them (yet still the number is not so large). Thirty-seven percent of the enterprises searched for the internet-based information as well from institutions such as State Sanitary Inspection. It is worth noting that only 23% of the entrepreneurs read acts and regulations regarding food law, which is a very low number in the light of importance of the issue. Only 27% of the small firms declared to gain the HACCP-related knowledge from participation in professional training.

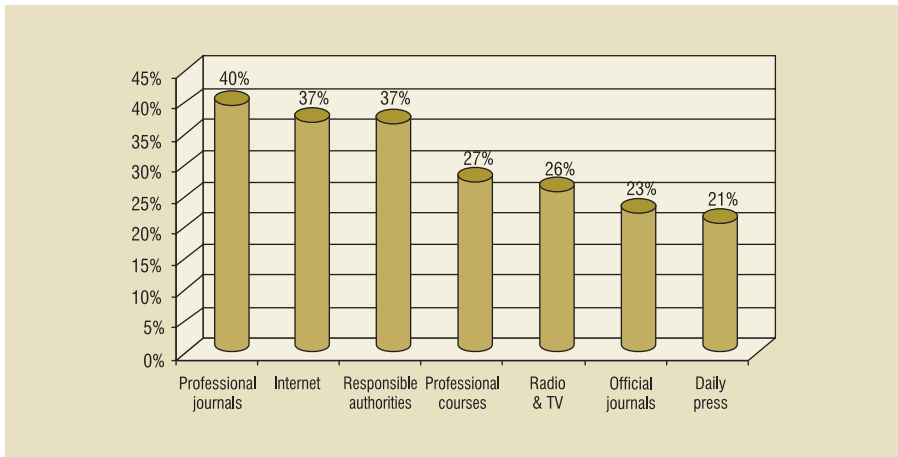


Figure 7.4 Chart of the sources of information about HACCP in small food companies before the EU accession (Trafiałek J. & Kołożyn-Krajewska, D.)

7.4.2.4 Outcome 4: Level of implementation of other systems but HACCP in small food firms

Before the EU enlargement, only 6% of the small food companies investigated in Poland had implemented the HACCP system. It raises the question whether other methods (GMP/GHP) and quality management systems are implemented by the small enterprises to an equally low degree. Results show that the small companies favour GMP/GHP principles, while quality management systems were not implemented in most cases. The latter are not obligatory. Thus, due to the high implementation costs, unless a company wants its products to be certified and improved in quality, the systems are not implemented.

According to the results presented in Figure 7.5, only 5% of the respondents implemented ISO-9000 system, and 17% ISO-14000. As few as 2% declared to have Integrated Quality Management System (IQMS), while none of them had Quality Assurance Control Points (QACP) or Total Quality Management (TQM). On the initial stage of the research (not presented here) the obligatory GMP/GHP was implemented in 25% of the small food companies as of January 2004. Within 3 months, the number increased by 9% and reached 34% of the companies following the GMP/GHP (Figure 7.5). There has been some evidence that the rate of GMP/GHP implementation was very high before the accession, several times that of the HACCP.

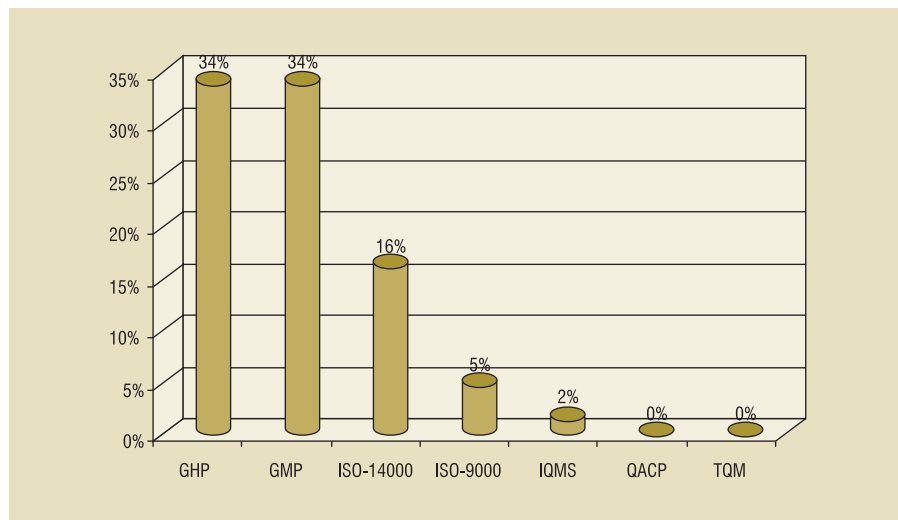


Figure 7.5 Chart of the implementation of other systems than HACCP in small food companies before the EU accession (Trafiałek J. & Kołożyn-Krajewska, D.)

7.4.3 Study 2: Number of Certificates in Polish Food Enterprises before and after the EU Accession

As described in Chapter 6, holding a certificate confirming the quality of a company's products is not a legal requirement either in Poland, or elsewhere. In some cases, food enterprises apply for certification because it is required by their customers. Certifying organizations in Poland are accredited by the Polish Accreditation Authority or other EU authorities. As mentioned before, the present study consisted of two stages: (1) pre-accession phase (May-July 2002) and (2) post-accession phase (a year after the accession – May-July 2005). The outcome is based on the information gathered in nine major certifying organizations in Poland.

7.4.3.1 Outcome 1: Number of certificates held by food enterprises in 2002 & 2005

According to Table 7.4, in 2002 the most popular certificate was ISO-9000 (86 food firms). Twenty-seven food enterprises implemented Integrated Quality Management (IQM) System (embracing ISO-9000 & HACCP) and have been

certified. Seven food firms have been awarded a HACCP certificate while 4 implemented IQM System alongside Environmental Management System (EMS). The results of the second phase (2005) show an increase in the number of food companies holding certificates of the quality assurance systems, comparing to the pre-accession phase in 2002. It particularly refers to IQMS, as its number has grown almost 7 times in the second phase in comparison with the first (IQMS was introduced either through implementing the integrated system as a whole, or through integration of the existing system with the new one not implemented so far). The number of food enterprises granted HACCP certificates increased 5 times. There were some food enterprises applying for certification of GMP/GHP. Some food companies in Poland (no doubt supplying their products to the EU market) were reported to hold BRC and/or IFC certificates (BRC is particularly important in exporting to the UK, while IFC to France and Germany).

Table 7.4 Number of certificates held by food enterprises in 2002 & 2005 (Morkis, G. 2003)

Quality / Safety Management System	No of companies certified	
	2002	2005
GMP	0	2
HACCP	7	37
ISO 9000	86	19
IQM (ISO 9000 + HACCP)	27	188
British Retail Consortium (BRC)	0	12
International Food Standard (IFC)	0	13
IQM (ISO 9000 + HACCP + ISO 14000)	4	7
IQM (ISO 9000 + HACCP + PN-N 18000)	0	1
IQM (ISO 9000 + HACCP + ISO 14000 + PN-N 18000)	0	7

7.4.3.2 Outcome 2: Number of certificates held by food enterprises per sector in 2002 & 2005

Table 7.5 indicates that meat sector dominates in terms of the number of certified firms (16.5% of the companies holding IQMS certificates ISO-9000+HACCP are meat companies). Besides, meat companies hold 75% of

the overall BRC and 46% of the IFC certificates awarded to the Polish food enterprises. Companies of fruit & vegetable sector, cereals & cereal products, and bakery & confectionary take the next position regarding the number of certificates. In addition, a large number of certificates have been attained by multi-sector companies.

Table 7.5 Number of certificates held by food enterprises of various sectors in 2002 & 2005 (Morkis, G. 2003)

FOOD SECTOR	NUMBER OF CERTIFICATES (2002)					NUMBER OF CERTIFICATES (2005)					
	ISO-9000	HACCP	IQMS (ISO-9000 + HACCP)	IQMS	GHP	ISO-9000	HACCP	IQMS (ISO-9000 + HACCP)	BRC	IFC	IQMS
bakery & confectionary	-	-	-	-	2	3	6	29	1	2	3
pasta & flour products	-	-	-	-	0	0	1	5	0	0	0
meat	4	0	1	0	0	5	1	31	9	6	2
fruit & vegetable	11	1	4	1	0	0	5	19	2	1	0
dairy	14	0	10	1	0	5	6	11	0	0	3
fish	2	1	0	0	0	0	0	5	0	4	0
beverages	13	1	2	0	-	-	-	-	-	-	-
spirits	-	-	-	-	0	4	3	10	0	0	1
cereal & cereal products	3	0	4	0	0	1	0	16	0	0	0
cooking fat	-	-	-	-	0	0	0	1	0	0	0
coffee / tea processing	-	-	-	-	0	0	0	7	0	0	1
animal fodder	-	-	-	-	0	1	1	3	0	0	0
multi-sector	-	-	-	-	0		6	30	0	0	5
Other	39	4	6	2	0	0	8	16	0	0	0
TOTAL	86	7	27	4	2	19	37	188	12	13	15

7.5 SUMMARY

Chapter 7 attempted to outline in sequence the existing safety and quality assurance and management systems. This chapter is more specific, describing the most important aspects of Polish food legislation, food enterprises and two studies carried out in Poland (before and after the EU accession). The primary objective of reporting on these studies was to demonstrate (by percentage) the level of implementation of safety and quality assurance systems in food companies and the number of certificates held by food companies of various sectors.

According to Study 1, before the EU enlargement, only 6% of the small food companies implemented HACCP, which was probably due to the fact that most of them did not understand, and saw no need to implement the system. They tended to perceive it as unnecessary ballast, making their lives more difficult through increased bureaucracy. Even if they followed the HACCP principles, the reason behind it was to comply with the existing food legislation. Those who already had HACCP, requested their suppliers to produce foods of the quality guaranteed by the system. Hence, it was an incentive for small firms to meet their buyers' requirements. Besides, small food plants were mostly not interested in seeking opportunities to extend their outlets, either domestically or abroad.

Study 2 on the number of certificates held by Polish food enterprises (pre- and post-accession) demonstrated that in 2002, the most popular certificate was ISO-9000 (86 food firms), which however decreased in number by 2005 (19 firms). Nevertheless, the number of companies holding Integrated Quality Management Systems (ISO-9000+HACCP) certificates has grown almost 7 times in 2005 in comparison with the year 2002. Similarly, the number of food enterprises granted with HACCP certificates increased 5 times during that period of time.

The key implications to be withdrawn from Study 1 should not focus specifically on how to increase the level of HACCP per se, as the system is obligatory and the companies would have to comply with the law sooner or later. Yet, they should suggest actions to be taken in order to change the perception of HACCP by small food enterprises. For instance, the results indicated that small food companies perceived the system negatively, which was reflected in "delaying" its implementation. Changing this perception would perhaps contribute to an improved ethic in food production and distribution

(as mentioned in the previous chapter, no system can work effectively without ethics). Moreover, the results clearly indicated that responsible authorities and professional training are not very popular as the sources of knowledge on HACCP in small food companies, while in fact, they should be considered as such. It raises the question about the quality of professional training and accessibility of the responsible authorities, whose task is to provide such information.

On the other hand, Study 2 would not allow extracting similar implications, as it only demonstrates the positive trend of increase in the number of companies holding certificates after the EU accession (particularly those of Integrated Quality Management Systems ISO-9000+HACCP). As the certification is voluntary, such an increase may only confirm the growing demand for a quality food, from both food chain actors and the consumers. It could also be a warning for the companies who did not apply for certification: soon they would have to do so being “forced” by their buyers and competitors, not by law.

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