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Report of

Stakeholder's Requirement for Employee in Food Safety and Quality

Hanoi University of Science and Technology

Universities as key partners for the new challenges regarding food safety & quality in ASEAN

561630-EPP-1-2015-1-FR-EPPKA2-CBHE-JP - ERASMUS+

Participants (2 participants from public/Higher Education Institutes and 10 participants from private food-related companies and 3 from Government bodies)

1. HABECO-Nghe An
2. Hai Minh confectionery company
3. Trung tâm Chất lượng nông lâm thủy sản vùng 1-NAFIQUAD 1
4. Department of Quality Management of Fishery and Forestry, Ministry of Agriculture and Rural Development, (Cục quản lý chất lượng Nông lâm thủy sản – Bộ Nông nghiệp và phát triển Nông thôn)
5. DAD Vietnam certification company (Công ty TNHH Chứng nhận DAS Việt nam)
6. ENTEROIL Essential oils company (Công ty cổ phần tinh dầu và chất thơm)
7. DABACO food processing company (Cty TNHH CHẾ BIẾN TP DABACO)
8. Lamson Sugar company (LASUCO)
9. Nong Cong suger company (NOSUCO)
10. INAPRO (Institute of Research and Development of natural compounds, HUST)
11. Khoa Công nghệ Thực phẩm Trường Đại học công nghiệp Thực phẩm TP HCM
12. Food Administrative- Ministry of Health (Cục An toàn thực phẩm -Bộ Y tế)
13. Huu nghi confectionery company
14. Công ty TNHH MTV Masan MB
15. Asia Packaging Industries Viet Nam -Northern Branch (Chi Nhánh Công ty TNHH Asia Packaging Industries Viet Nam tại Miền Bắc)

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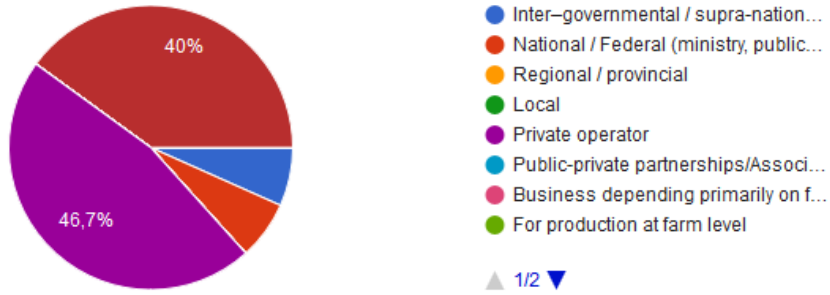
Survey outcome

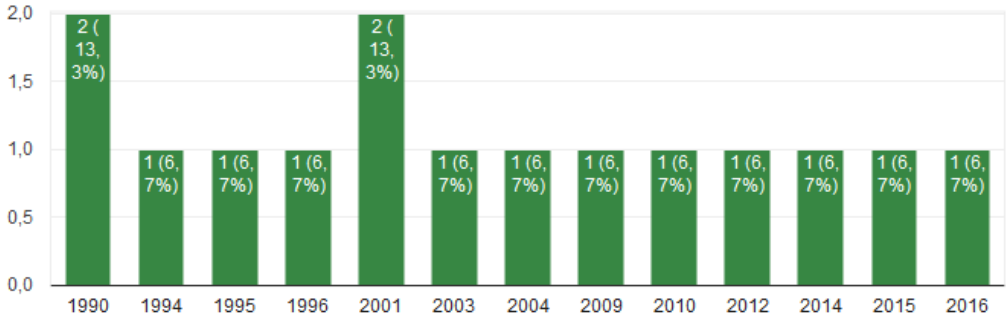
Summary of survey outcome from 15 participants

1.7. General characteristics of the organization/company



According to these data, 40% of the stakeholders are from Food industry processors, while 46.7% are coming from Private operators and 6.7% of the surveyed stakeholders are from National, and 6.7% are from ministerial administrative.

1.8.1. Established year



Most of the investigated stakeholders were established after 1990, the established year was categorized into 4 categories as follows.

From 1990-2000: 5 stakeholders

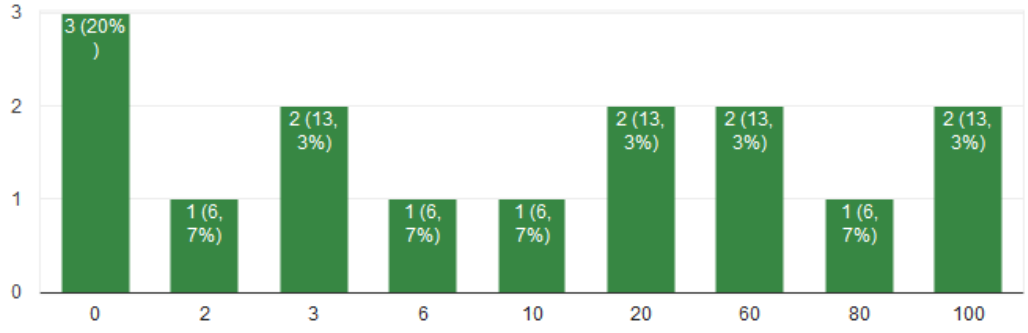
From 2001-2010: 6 stakeholders

From 2011-now: 4 stakeholders

1.8.2. Number of permanent employee (15 responses)

Out of 15 stakeholders, 4 stakeholders are the big size organization which having more than 300 employees, while 4 stakeholders have the employees from 100 to 300 employee and 7 stakeholders have less than 100 employees.

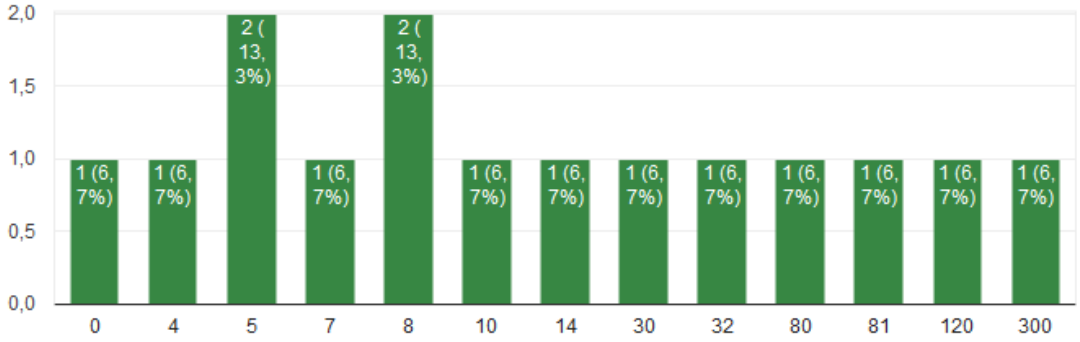
1.8.3 Number of temporary employee (15 responses)



The number of temporary employee at each stakeholder varies depending on the type of organization, in which the processing industry stakeholders employ large number of temporary employer (stakeholders, accounting for 13.3%), 1 stakeholder (6,7%) employ 80 temporary employees. There are 3 stakeholders having no temporary employees, among which 2 private operators and 1 national agency having no temporary employee.

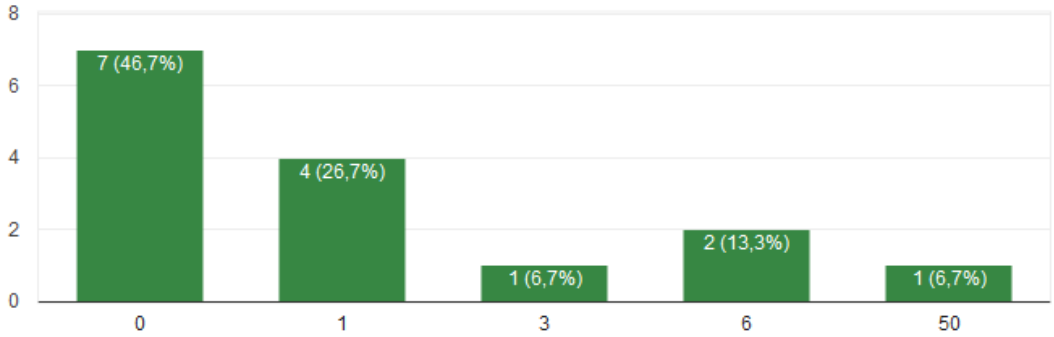
Qualification of employees

1.8.4a. Number of employees with Bachelor degree (15 responses)



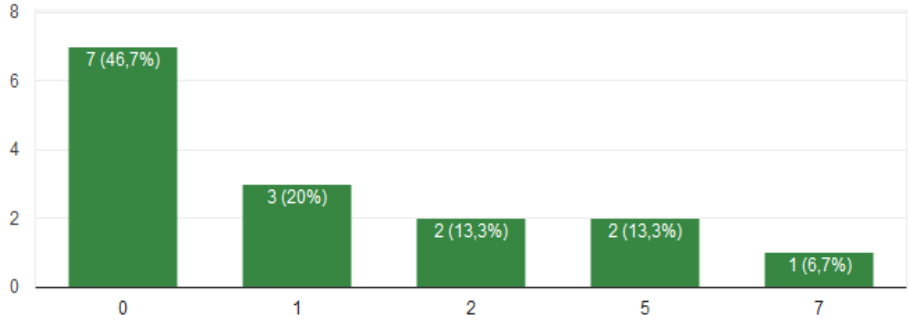
The number of employees with Bachelor degree in National agency is the highest (300 out of total 400 permanent employees), accounting for 6.7% of total investigated stakeholder. One stakeholder (6.7%) having 120 employees with Bachelor degree. The number of stakeholders having employees with BSc are varied among the investigated stakeholder, noteworthy there are one stakeholder with no employee having BSc degree.

1.8.4b. Number of employees with Master degree (15responses)



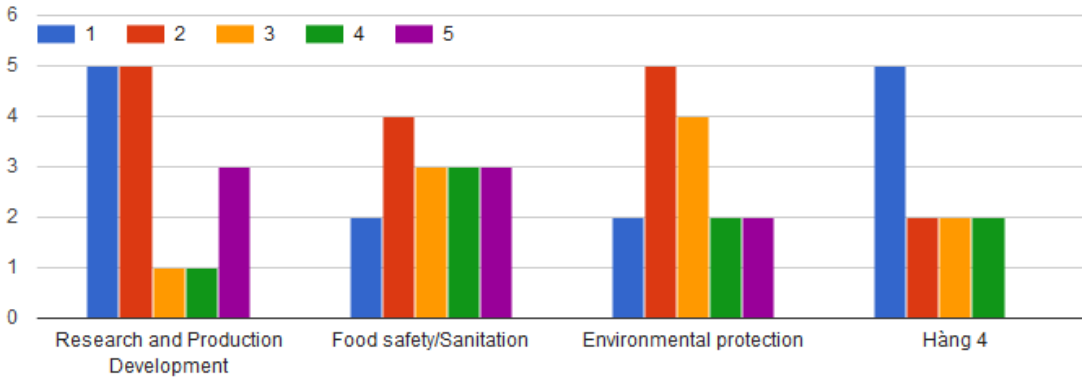
In this survey, most of the stakeholder are having low level of Master degree holders, except for 1 organization (50 out of 400 employees working for this national/ministry agency). On the other hand, there are 7 stakeholders having no employee with MSc degree; 4 stakeholders have 1 employee having MSc degree; 1 stakeholder having 3 employees with MSc degree and 2 stakeholders having 6 employees with MSc degree

1.8.4c. Number of employees with Doctoral degree (15 responses)



Most stakeholders do not have employees holding Doctoral degree excluding the higher education institutes and public agencies.

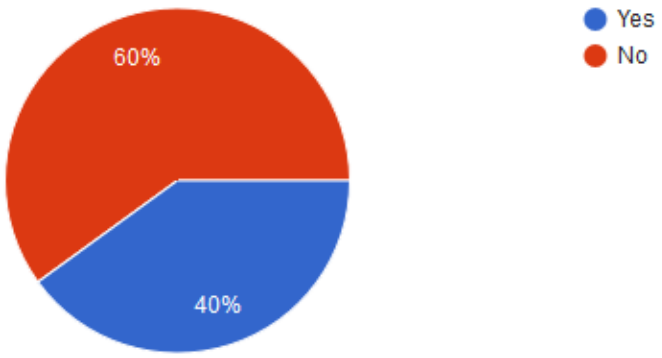
1.9. Organization's primary area of interest



According to the data, the areas that most attract organization's interest are summarized in the following order:

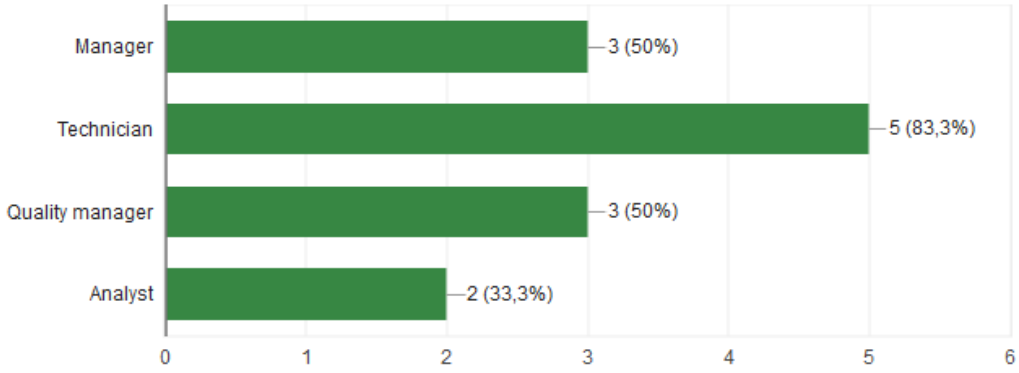
1) Food safety and sanitation
2) Food production/Manufacturing process
3) Research and production development
4) Food ingredients/Raw materials
5) Environmental protection

1.10. The requirement for staff training at the Master or Ph.D. level



According to the data, most stakeholders (60%) give no needs to the staff training at the Master or Ph.D. level, while the rest (40%) need their staffs to be trained at the Master or Ph.D. level.

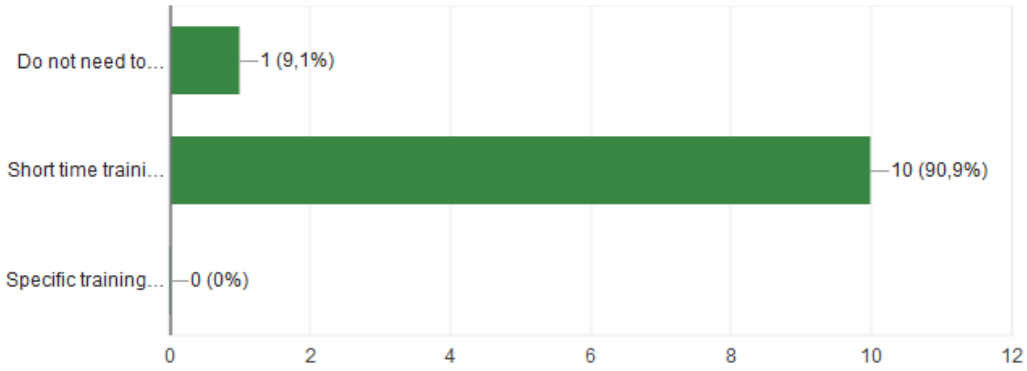
1.10.1. In accordance to (1.10), the position(s) that requires training at the Master and Ph.D. level (15 responses)



15 stakeholders emphasize the position(s) required for training at the Master and Ph.D. level in the following order *(* Please note that some stakeholders gave more than 1 response for this question)*

1. Technician
2. Manager and quality manager
3. Analyst

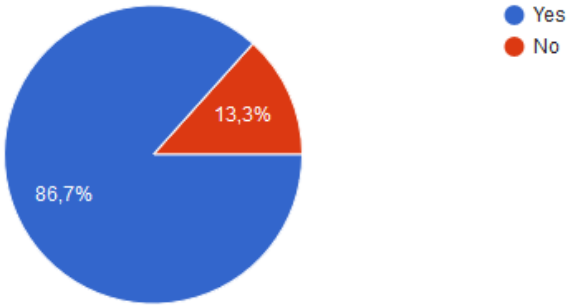
1.10.2. In accordance to (1.10), the reason(s) for the unrequited staff training at the Master and Ph.D. level (11 responses)



Most of the responses give the reason that the short training is sufficient for performing tasks, the reason is probably due to the time limit for the employee on duty. On the other hand, 1 response states that staffs do not need to be trained.

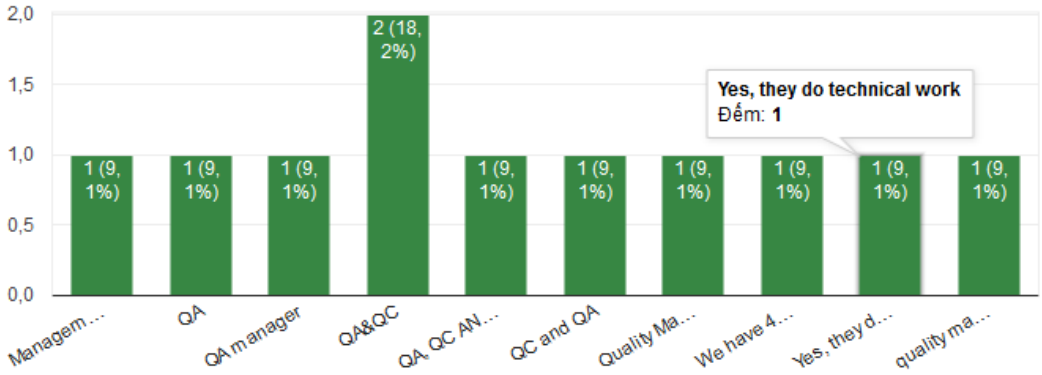
<u>The need for training high-quality employee in food safety and quality</u>

2.1. The requirement for employees in the field of food safety management (15 responses)



Almost of the stakeholders surveyed (86.7%) need employees in the field of food safety management; while only 13.3% of the stakeholder do not need employee to be trained in the field of food safety management.

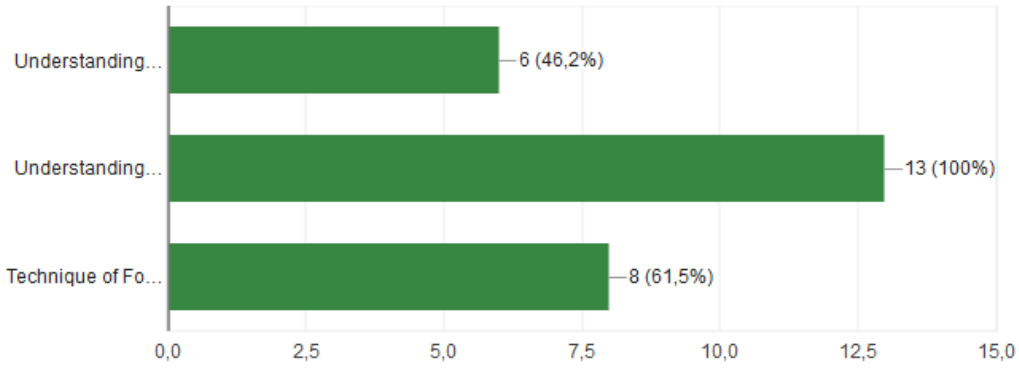
2.1.1a. The position(s) of employees in the field of food safety management



Among the stakeholders that having employees in this field, the main positions that they have are in the following order:

1) QA/QC-related position (2 stakeholders)
2) QA manager
3) Quality manager
4) Food technologist (1 stakeholder)
5) Lecturer (1 stakeholder)
6) Researcher (1 stakeholder)
7) All positions must have knowledge of food safety management (1 stakeholder)

2.1.1.b. Specific requirements of the company for working in the field of food safety management (15 responses)

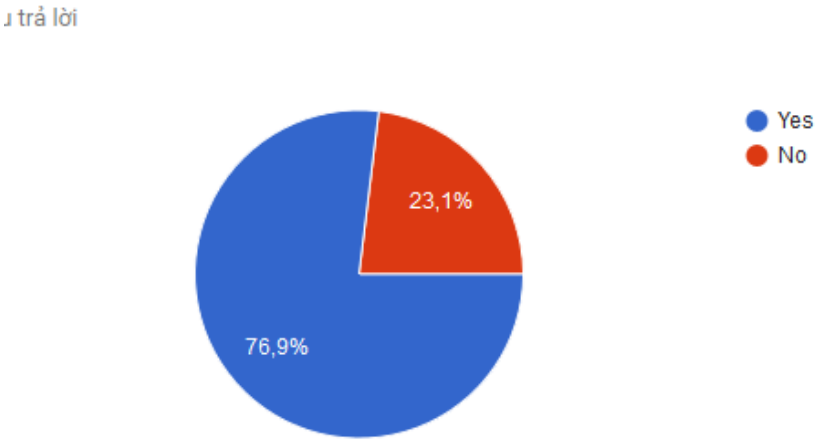


According to the acquired data, the knowledge that most required by the company regarding food safety management is in the following order.

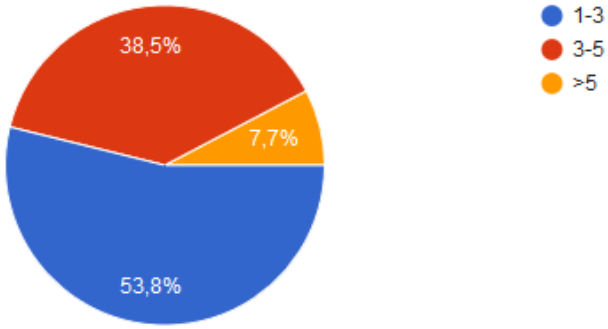
(Please note that some stakeholders gave more than 1 response for this question)*

1) 13 stakeholders rate the requirement of understanding of Food Safety and Food Quality Management
2) 8 stakeholders require the understand of technique of Food Quality analysis
3) 6 stakeholders require the understanding of materials properties

2.1.1c. Most surveyed stakeholders have sufficient manpower for performing tasks relating to food safety namagement (76.9%), whereas 23.1% still have hot had sufficient manpower.



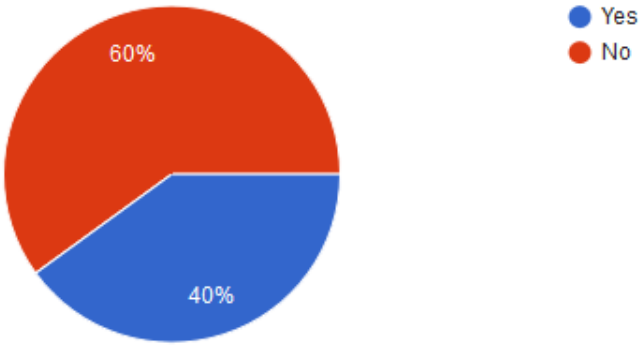
2.1.1d. Future plan for recruiting food safety and food quality experts in the next 3-5 years (15 responses)



Most stakeholders (53.8%) plan to recruit additional 1-3 employees in the field of food safety and food quality management in the next 3-5 years.

2.1.2.b. In case that stakeholders do not specifically need to have an employee in the field of food safety and food quality management (3 responses)

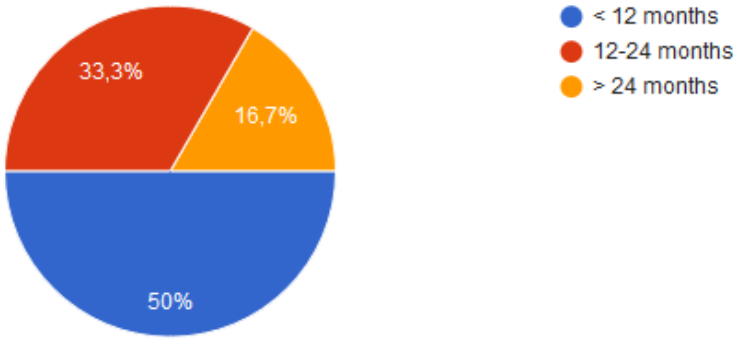
* Based on (2.1), all stakeholders require having personnel in food safety and food quality management. However, 3 stakeholders gave response to this question.



60% of stakeholders stated that their employees are not able to perform multiple functions, while 40% of stakeholder reported that staffs are currently able to perform multiple functions.

2.1.2.c. The period that stakeholders required to start recruiting personnel in food safety and food quality management (6 responses).

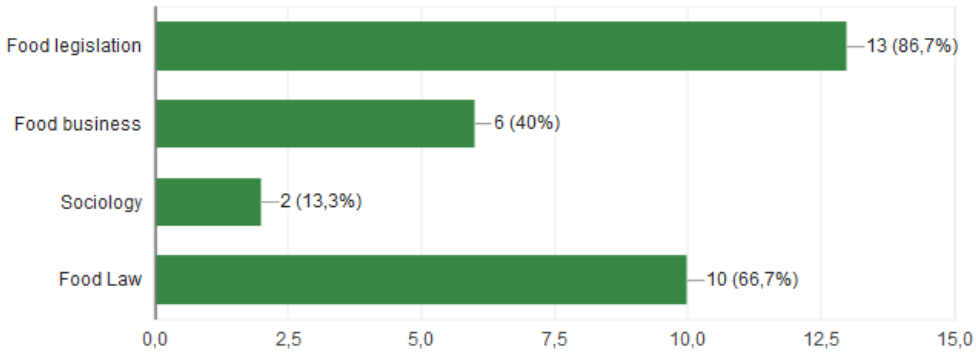
* Based on (2.1), all stakeholders require having personnel in food safety and food quality management. However, 6 stakeholders gave response to this question.



Three stakeholders (50%) have a short-term plan (within 12 months) to recruit employee(s) in the field of food safety and food quality, while 2 stakeholder (33.3%) has a 12-24 month plan to recruit personnel in food safety and food quality management and one stakeholder (16.7%) has long-term plan (> 24 months) to recruit that particular position.

2.2.1.a. Persons who work in the field of food safety management should comprehend the social knowledge as follows (20 responses):

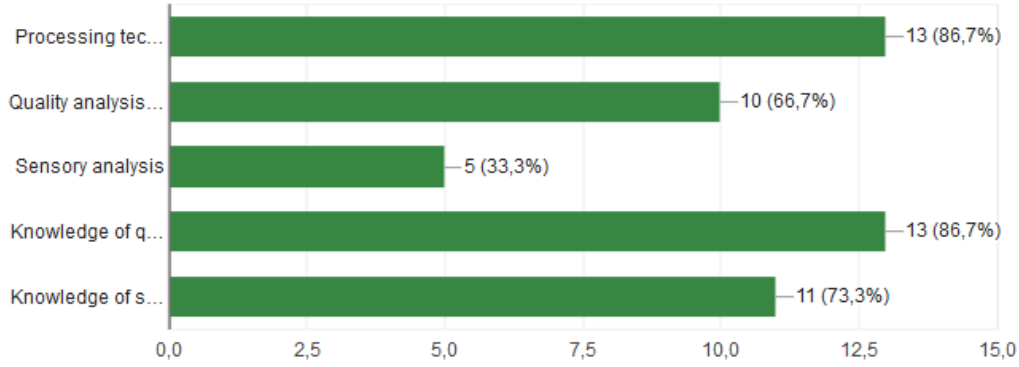
* Please note that some stakeholders gave more than 1 response for this question.



Food legislation is the most required social knowledge that an organization need (13 stakeholders) followed by food law (10 stakeholders) and food business (6 stakeholders)

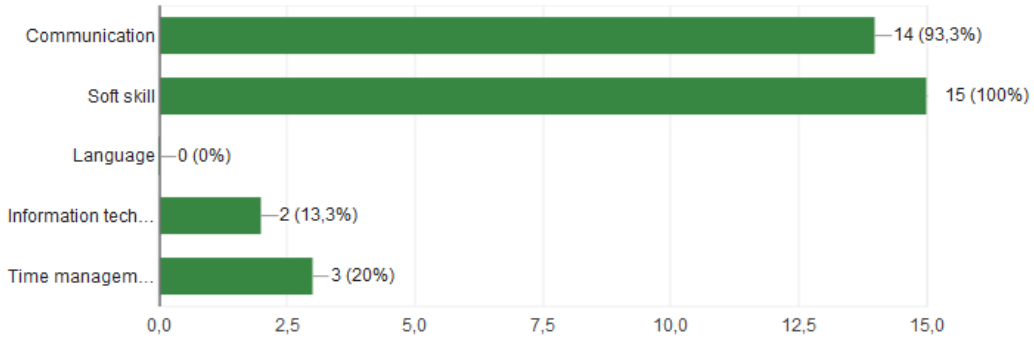
2.2.1.b. Undergraduate students who will work in the field of food safety management should comprehend the basic knowledge as follows (15 responses):

* Please note that some stakeholders gave more than 1 response for this question.



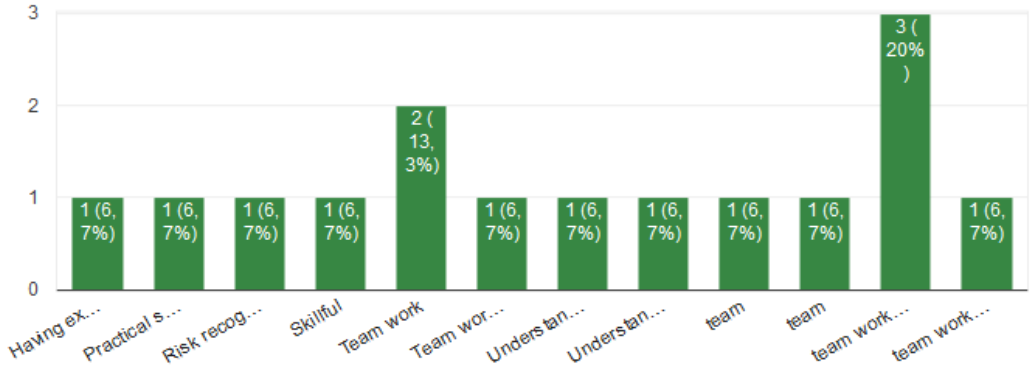
Among the basic knowledge needed to work in this field, the most required knowledge are processing technique and knowledge of quality management system (13 stakeholders), followed by knowledge of safety management system (11 stakeholders) and quality analysis techniques (10) and sensory analysis technique (5) are the basic knowledge of which stakeholders need.

2.2.2.a. Undergraduate students who will work in the field of food safety management should comprehend the basic skills as follows (15 responses):



According to the data, the soft skill (15 stakeholders) and communication skill (14) are the most important basic skills for undergraduate students who will engage in the field of food safety management in the future. The trend towards language and soft skill is comparable and followed in order by IT and time management skills.

2.2.2.b. Persons who work in the field of food safety management should have the additional practical skills as follows (15 responses):



According to the data, a variety of additional skills were suggested by the stakeholders for persons who work in the field of food safety management. The most suggest skill that is needed is team work (9 stakeholders), the other additional skills are suggested as follow:

1) Having experience

2) Practical skill

3) Risk recognition

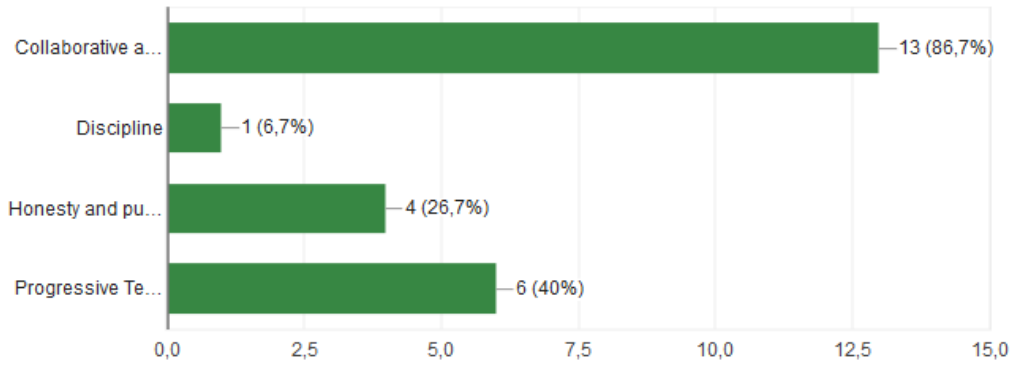
4) Skillful

5) Decision making and problem-solving

6) Understanding food technology

2.2.3.a. The attitude required for working in the field of food safety management (15 responses)

*Please note that some stakeholders gave more than 1 response for this question.

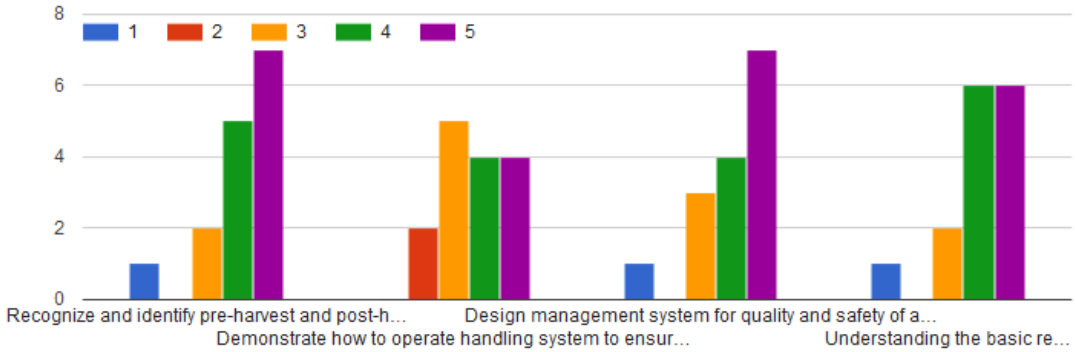


According to this answer, the most attitude that required by stakeholder for the person who work in this field is collaborative with colleagues (13 stakeholders, accounting for 86,7%), followed by progressive team workers (6) and honestly and punctuality at work (4).

Relevant competencies evaluation

We calculate the weighted scores based on the degree of importance with topic(s) with the highest total scores is considered the most important aspect of its particular category.

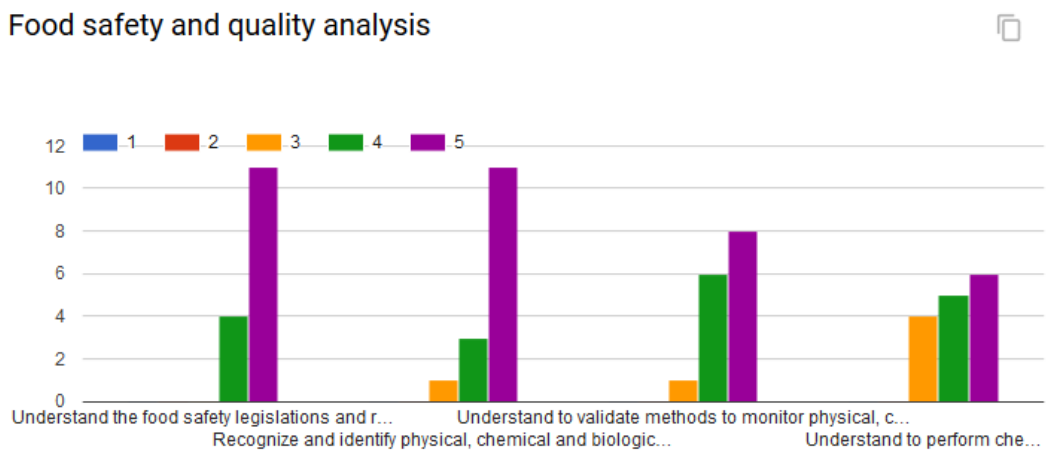
2.3.A. Knowledge: Food safety and food quality upstream of the food value chain



- Remark: the question regarding understanding the basic requirement for good agricultural/livestock/aquaculture products does not have the complete set of answer; therefore, the analysis of results was omitted.

In order to ensure Food safety and food quality upstream of the food value chain, stakeholders considered the 3 issues of how to operate and handling system, recognize and identify preharvest and post-harvest factors and lastly design of management system.

2.3.A. Knowledge:Food safety and quality analysis



Based on the 4 issues, stakeholders considered the importance of issues in the following order.

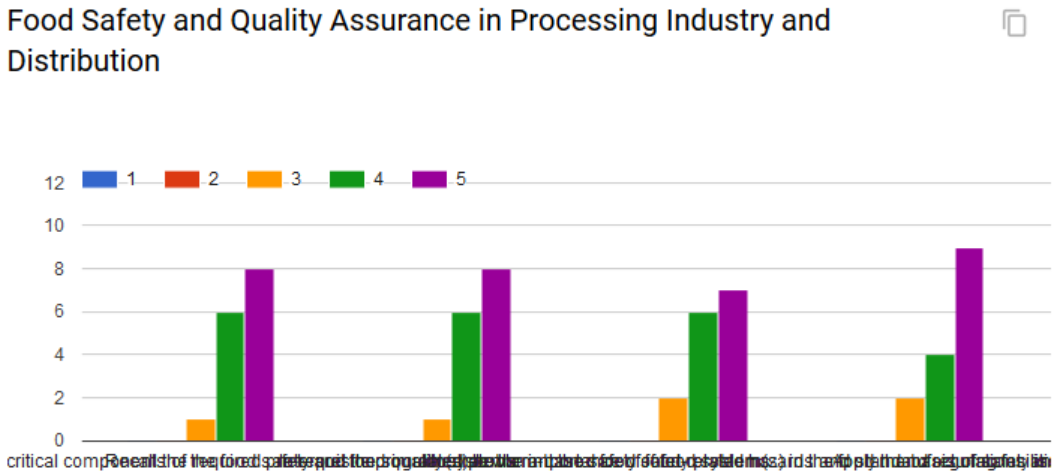
(1) Recognize and identify physical, chemical, and biological hazards in food system

(2) Understand the food safety legislations and regulations

(3) Understand to validate methods to monitor physical, chemical, and biological hazards in food (according to international guideline)

(4) Understand to perform chemical analysis using advanced technique

2.3.A. Knowledge: Food safety and quality assurance in processing industry and distribution



Based on the 7 issues, stakeholders considered the importance of issues in the following order.

1) Illustrate the importance of food-related hazards and standard regulations and procedure in food processing practices

2) Analyze the hazards and risks associated with food and beverages

3) Recognize the critical components of the food safety and food quality systems

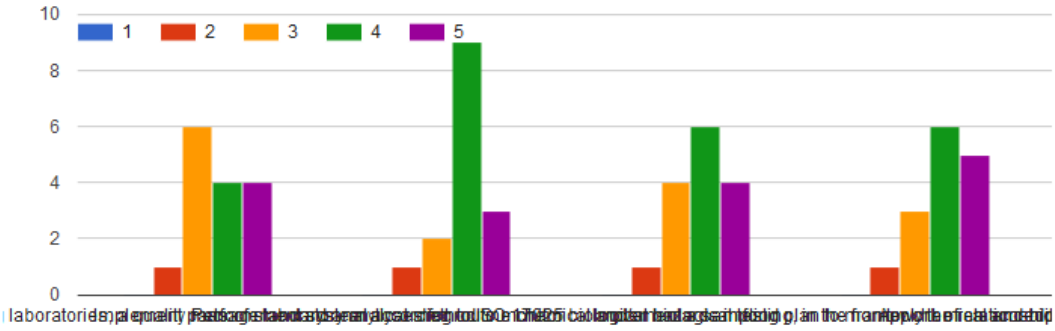
4) Interpret the simulated problem-based food safety problem(s)in the food manufacturing facilities

5) Apply the basis of safety issue in food production and supply chain systems

6) Recall the required pre-requisite program(s) to warrant the safety of food systems

7) Analyze and use traceability system in the food chain

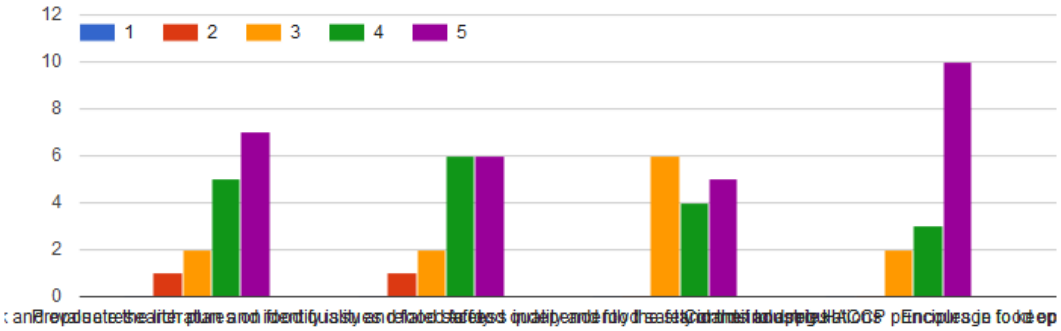
2.3.B. Skills



According the obtained results, the important skills considered by stakeholders (15 responses) based on the scores provided can be ranked in order as follows.

1) Implement HACCP methodology and food safety verification programs
2) Implementation of pre-requisite programs and HACCP and Implementation of risk analysis (Equal scores)
3) Synthesize and implement the relevant food safety or food standard legislation in both local and international levels
4) Implement a sampling plan to monitor chemical and biological hazards in food
5) Implement microbiological methods to monitor biological hazards in food
6) Implement a quality management system according to ISO 17025 in testing laboratories
7) Routinely perform chemical and/or biological testings in the famework of an accredited laboratory.

2.3.C. Attitude



According the obtained results, the important attitudes considered by stakeholders (15 responses) are presented as follows.

1) Capable of accessing the standards and regulations
2) Encourage to keep the confidentiality of analytical results
3) Commit to apply HACCP principles in food operation
4) Frequently search and evaluate the literatures on food quality and food safety
5) Propose research plan and identify issues related to food quality and food safety in the industries

2.4. Additional opinion regarding the recommended training issues that universities should provide in order that students will be able to meet the requirement of the job market.

1. Practical knowledge and skills
2. Get familiar with equipment
3. Knowledge about the industry
4. Current legislation in food safety,
5. Basic principles of HACCP to food safety assurance, procedures in food processing, food safety hazards and control measures
6. Basic knowledge in environment,
7. quality management systems
8. soft skill: understanding human psychology and behavior to collaborate, behavioral skill, to promote