

AN OVERVIEW OF THE ROMANIAN PROJECT ON TRACEABILITY OF AGRI-FOOD PRODUCTS - IMPLEMENTATION STAGE

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Abstract

Traceability of agri-food products refers to the ability to trace the history of a product through records related to identification data, such as the origin of the materials, the history of processing and the distribution and location of the product after delivery. The purpose of this paper is to highlight the importance of traceability systems in the Romanian agri-food sector and provides an overview of the project "Strengthening the capacity of the Ministry of Agriculture and Rural Development to develop specific policies and regulations in order to implement a national strategic system for the traceability and integrity of agri-food products". The results were concluded based on bibliographic study, analysis and interpretation of relevant databases and evaluation of the activities performed during the project. Through the activities carried out within the project, the aim is to achieve the following results: a package of public policy proposals, active fund of the simplified legislation, regulations to reduce the administrative burden, procedures for reducing bureaucracy in citizen-public institutions interaction, transfer of knowledge and creation of new skills for MARD in order to manage public policies.

Key words: origin identification, differentiation, product attributes, product trail, food industry

INTRODUCTION

Industries that work with large volumes of products need the best possible management, because the record of quantities is essential. The food industry is one of the most complex industries, playing an essential role for the well-being of a community. This requires special attention because the highest level of quality must be ensured, since it is food that people use for their own consumption [1].

Otherwise, poor food managing can lead to health problems even at the collective level [2]. This created the need for a system that could trace product specifications. The traceability process appeared as a result of the need to inform the consumer for the purchased product [3].

At the same time, it also represents a proof of the producer's responsibility for the

protection of his consumer, offering him total transparency on the traded goods [4].

Traceability of agri-food products refers to the ability to trace the history of a product through records related to identification data, such as the origin of the materials and parts from which the product is composed, the history of processing and the distribution and location of the product after delivery [5]. Traceability of plants used in the food or feed industry is an essential indicator for human and animal health [6].

Traceability is based on the identification of operators and products in all supply chain [7] and on the observation and recording of information that describes the formation and transformation process of the product [8]. The development of traceability systems represents an innovative approach that allows the verification of the origin of food and will have

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a significant impact both for final consumers [9] and for legislative bodies and producers in the food industry, involving large cost reductions [10]. The objective of implementing the traceability system is to guarantee the differentiation of food products with different attributes [11]. It ensures the tools and mechanisms that reproduce the differentiation of the products in a documented and reliable manner, so that consumers are informed before purchasing [12].

Product traceability must be able to identify at the level of any link of the food chain, from production to distribution [13], the origin of the product as well as its destination, according to the objectives of the food inspection and certification system [14].

In order to ensure the continuity of the flow of information, each chain operator must communicate to the successive operator the identifiers of the traced lot [15]. Operators must be able to identify who has supplied them with food, feed, food-producing animal or any substance [16].

Legislation regarding traceability of agri-food products differs in every country. Within the member states of the European Union [17], the rules must be aligned with the specific European normative framework: “*Directive 2001/95/EC of the European Parliament and of the Council of 3 December 2001 on general product safety*” [18] and “*Regulation (EC) No 178/2002 of the European Parliament and of the Council of 28 January 2002 laying down the general principles and requirements of food law, establishing the European Food Safety Authority and laying down procedures in matters of food safety*” [19].

In Romania, complying with the rules and sanctioning their non-compliance is the responsibility of the national authorities in the field, such as the National Veterinary Sanitary and Food Safety Authority (ANSVSA).

ANSVSA elaborated the document “*Evaluation of the system regarding traceability*” which aims to describe the way in which, in the framework of the

official control carried out by official inspectors, can be verified the degree to which operators in the food sector respect the principle of traceability of food products or of a substance to be incorporated into an agri-food product [20].

The development of specific policies and regulations, in order to implement a national strategic system for the traceability and integrity of agri-food products, is one of the measures provided for in the 2018 - 2020 Governance Program, Measure 16 - Program of legislative measures for the agricultural sector [21], which is expected to improve the legislation in the field and the creation of a unitary system for monitoring agro-food products sold on the consumer market for the elimination from the start of counterfeit or non-compliant products that can affect the health of consumers [22].

The Ministry of Agriculture and Rural Development [23] is the central public authority responsible for the application of the government strategy and program, with a role in the development and implementation of national sectoral strategies in the fields of agriculture and food production, rural development, as well as in related fields: specialized scientific research, conservation and sustainable management of soils and plant and animal genetic resources.

The purpose of this paper is to highlight the results of the traceability good practices implemented in Romania through financed activities, thus revealing the importance of traceability systems in the Romanian agri-food sector and the importance of attracting funds for food promotion measures.



Figure 1: Project Official poster [24]

This article provides an overview of the implementation of a new national strategic system for the traceability and integrity of agri-food products and a description of the characteristics of the project carried out by the Ministry of Agriculture and Rural Development "*Strengthening the capacity of MADR to develop specific policies and regulations in order to implement a national strategic system for the traceability and integrity of agri-food products*" Code 126983, co-financed from the European Social Fund (ESF) through the Romanian Operational Program Administrative Capacity (POCA). Farmers started to develop resilience procedures (economic autonomy through diversified production and local informal exchange systems) against the fluctuations of Romanian national policies and markets [25].

Ensuring national food security, in order to guarantee the population sufficient, safe and nutritious food, increasing the competitiveness of Romanian agri-food products on the European and global market in order to balance the agricultural trade balance, making agricultural and agri-food market structures more efficient, are the objectives of MADR, according to the Government Decision no. 30/2017 [22].

The goal of the project is to strengthen MARD capacity to develop evidence-based public policy proposals in the agri-food field, to reduce the administrative burden for the business environment and to implement simplification measures for citizens, achieved through specific objectives [26]:

- **Objective 1:** Elaborating a package of public policy proposals in the agri-food field;
- **Objective 2:** Creating various institutional, administrative and procedural mechanisms, including the systematization of current legislation and the formulation of a phased plan of proposals for improvement, simplification and completion of regulation;
- **Objective 3:** Implementation of an integrated IT management and monitoring system in the agri-food sector;
- **Objective 4:** Simplifying legislation and reducing administrative burdens

for the business environment and citizens;

- **Objective 5:** Training the target group both for the application of public policy proposals and for the use of the IT system and subsequently the dissemination of information to the business environment.

MATERIAL AND METHOD

The results were concluded based on exploratory research (discussions with those interested actors from the public and private sector), bibliographic study, analysis and interpretation of relevant databases at national level and evaluation of the activities performed during the project. This study is based on a series of activities performed by MADR staff that were analyzed afterwards in order to elaborate relevant conclusions.

The project runs for a period of 51 months and has an estimated budget of 27,989,984.07 lei (5.7 mil EURO) out of which 85% represents non-refundable financing.

The implementation period of the project is established at 51 months, since September 2019 until December 2023.

Target group: the POCA project addresses a number of 150 people, employees of MADR, subordinate structures and institutions with attributions in the field of the agri-food industry, participants in inter-institutional working groups (officials, senior public officials, management and executive staff from central and local public administration).

In addition to them, in order to support the activities carried out within this project, all the economic entities from the agri-food chain will be involved and will have dedicated access to SIIMM (they will be able to have access to the system for analysing the feedback of suppliers of agri-food products that will be implemented through this project).

Consumers will benefit from informative and educational materials

(including specific applications regarding socio-economic aspects, regarding how to manage situations generated by unfair trade practices in the agri-food chain and the development of modern tools for their management), inspectors and collectors of data required for the integrated system regarding the traceability of agri-food products will also benefit from SIIMM, as well as representatives of other structures with attributions in the field (public servants from: ANSVSA, the Ministry of Public Finance, the National Customs Authority, the Ministry of Transport, the National Authority for Consumer Protection, the Ministry of Environment and Sustainable Development). They will be permanently informed, through the provided actions, about the elaborating process of the public policy and also, about the administrative procedures destined for them to obtain fast, professional and transparent information and public services.

The data, collected from the Ministry of Agriculture and Rural Development, have been processed and interpreted, building the preliminary results of the project, thus, creating a trend of the implementation status.

The activities referred to in this study were carried out by the Ministry of Agriculture and Rural Development starting with the first year of implementation of the project.

Through the activities carried out within the project, it is aimed to achieve the following results [27]:

- **Result 1:** Elaboration of a package of public policy proposals in the agri-food field, in accordance with the Strategy for the Consolidation of public administration 2014-2020 and the National Strategy for the Sustainable Development of Romania 2030;
- **Result 2:** Creation of an active fund of legislation in the agri-food field, simplified, systematized and completed (at least one normative act developed, approved and published);
- **Result 3:** Procedures and regulations affecting the business environment, in

the agri-food sector (such as food waste legislation, epizootic crisis management measures, ensuring the traceability and integrity of agri-food products) to reduce the administrative burden on it (farmers, their associations, cooperatives, processors, retailers, consumers) in accordance with the "Strategy for better regulation 2014-2020", simplified;

- **Result 4:** Procedures for reducing bureaucracy in citizen interaction - public institutions with attributions in the agri-food field in accordance with the Integrated Plan for Simplifying Administrative Procedures for citizens, in the agri-food field;
- **Result 5:** Transfer of knowledge and the creation of new skills for MADR staff in order to manage (elaborate, implement, monitor, evaluate) the developed public policies, the simplified procedures to reduce the administrative burden of interaction of citizens and the business environment with the responsible institutions.

The progress of the study is closely observed by the European Commission. Stakeholders, experts and partners are encouraged to send feedbacks in order to develop best practice reports and improve the current framework.

The project is designed around the idea of sustainability, aiming to effectively cover the specific needs of the target group to allow the takeover and multiplication of similar initiatives in other areas of interest. By implementing the project, the results in the medium and short term and the effects in the long term are taken into account.

The project is addressed to the structures of MADR and other institutions with attributions in the field of the agri-food industry and participants at the inter-institutional working groups.

In addition to them, in order to support the activities carried out within this project, all the economic entities from the agri-food chain will be involved and will have

dedicated access to the new designed Integrated Information System for Management and Monitoring in the agri-food field - SIIMM. This program seeks to introduce simplified procedures in order to reduce bureaucracy.

The following activities will be carried out:

- the analysis of the internal and external environment,
- identification of solutions and systematization of the necessary regulatory framework,
- formulation of proposals for the configuration of structures,
- the optimization of processes and the preparation of human resources for the development and implementation of public policies based on evidence regarding the traceability and integrity of agri-food products,
- management of crisis situations in the market, like price volatility or epizootics/infestations with diseases or crop pests,
- marketing and promoting agri-food products and quantifying food waste.

RESULTS AND DISCUSSIONS

The framework of the project is elaborated and developed based on 11 support-activities eligible for POCA financing.

For each of them, the Ministry of Agriculture and Rural Development together with interested authorities in the field, carry out specific undertakings in order to meet the projects objectives and the specific results.

The events that already took place and started to generate results, are described below under each activity to which they correspond.

The mandatory activities stipulated in the framework contract of the project are as follows:

1. Activity 1: Activities specific to project management: recruiting human resources, supporting the implementation of

activities, managing expenses, preparing progress reports.

This activity takes place throughout the project implementation period and incorporates all the other 10 activities, such as: for **Activity 1** - recruiting the management team, for **Activity 3** - recruiting institutional diagnosis analysis experts, for **Activity 9** - recruiting experts for the elaboration of public policy and also for **Activity 10** - recruiting SIIMM implementation experts.

2. Activity 2: Information, publicity and advertisement, dissemination of project results:

- Development of advertising and information materials (realization of graphic concept for the visual identity of the project, A3 posters, roll-ups, folders, pens, other materials);
- Organization of thematic events in order to promote the anticipated results of the project;
- Participation in events / work visits in order to promote the objectives and results of the project.

Event 1: Media promotion of the project in order to raise awareness amongst consumers

MADR representatives participated at different TV shows in order to present the project objectives and explain the implementation process of the IT system SIIMM as well as how it can be used by consumers to see the product specifications.

The project manager discussed about an increased administrative capacity, a low level of bureaucracy and the facilitation of the registration process made by farmers (with a single request to have the possibility to target several institutions in order to be issued the necessary approvals much more easily).



Figure 2: Project Manager [28]

Also, farmers will have to register in the new platform the details of their products to have visibility on the market and to be recognized according to their processing methods.



Figure 3: Agricool TV show advertising the platform [29]

Moreover, MADR claims that such a platform is necessary to centralize all data on the production of agricultural and food products and to promote them. Consumers will also have access to the platform created

in collaboration with the Romanian Special Telecommunications Service (STS), since the platform will have different interfaces for each category of users. It is desired to display interactive maps with the dispersion of Romanian local food producers.



Figure 4: Informative material [29]

The Ministry of Public Finance will also collaborate for the development of the platform, which will be connected to alert systems at the European level to prevent food fraud. A large part of the financing of the project will cover the realization of best practice studies and the financing of experts from the World Bank.



Figure 5: The press conference presenting the project debut [30]

During the first press conference in January 2021, there were presented the following planned activities of the project: information, publicity and dissemination of project results; the elaboration of the analysis of entities with attributions in the elaboration and application of public policies regarding traceability and integrity, the management of market crisis situations, the promotion of agro-food products and the quantification of food waste; preparing and carrying out exchanges of experience and networking with authorities / institutions / bodies of national and international public administrations; evaluation of the active fund of the legislation in the field of traceability, integrity, crisis management, commercialization and reduction of agri-food waste; measuring the compliance costs of operators in the agri-food sector with the legislation; identifying public services for citizens that can be provided in a simplified manner; organizing training sessions for MADR staff.

Event 2: The International Food Waste and Awareness Day

The Minister of Agriculture hosted on September 29, 2022, a sustainable event carried out by the Alternative Euro-East Cultural Association, dedicated to the celebration of the International Food Waste Awareness Day. The president of this association, Dr. Iulia Drăguț, designed and presented a complex demonstration of gastronomy and education.

Solutions for avoiding waste exist at both restaurant and household level, and they can be adopted and enriched at any age. The activity involved the formation of six teams of students, each team representing one of the participating educational units: "Sf. Maria" Special Professional School for the Hearing Impaired, "Spiru Haret" UCECOM College, "Viaceslav Harnaj" Technological College, "Barbu Delavrancea" High School, "Dinicu Golescu" Technical College and "Viilor" Economic College. The creative concept belonged to Iulia Drăguț, the author

of the first gastronomic education manual in the world.



Figure 6: The students that participated at the event [31]

Under the coordination of professional chefs, each group of students used a basket with fresh ingredients: vegetables, meat (fish, chicken, beef and pork), aromatic herbs, spices and other products from local production, to create dishes without wasting the raw material. The students were explained the importance of preserving the environment, respect for the raw materials used, the need to focus on "building" balanced dishes and responsible consumption.



Figure 7: Students cooking under chef supervision [31]

It was a demonstration in which the general public could participate for training and exemplification to prevent food waste when cooking. The dishes were made available for tasting to the persons present. The event aimed to raise awareness about the importance of the correct and effective utilization of resources and about the defining role of education measures in the context of preventing and reducing food waste. This activity responds to **Objectives 2 and 5** and expected **Results 3 and 5**.

3. Activity 3: Elaboration of the analysis of entities with attributions in the development and application of public policies in terms of traceability and integrity, management of market crisis or epizootic situations, promotion of agri-food products and quantification of food waste.

A working group was established in December 2020 which developed the analysis of the entities during December 2020 - June 2023 and which delivered the final analysis in June 2023 (4 experts were recruited in order to carry out the analysis of the entities with attributions in the development and application of public policies).

The tasks of the experts were divided into four modules, as follows:

- **Module I:** Elaboration of unitary analysis methodology of the Organization and Functioning Regulations of the entities responsible/involved in the project areas;
- **Module II:** Identification of new entities, respectively NGOs/Research Institutes with an active and complementary role to the activity of the authorities/institutions mentioned in the funding request;
- **Module III:** Identification of overlapping activities of the responsible institutions/authorities, in the four areas of interest, in order to reduce the administrative burden for operators in the agri-food sector;
- **Module IV:** Formulation of proposals regarding the review of the existing legislative framework that regulates the

activity of the authorities/institutions with responsibilities in the agri-food sector.

Current stage: The experts delivered the first two documents, related to Modules I and II, which were sent to the members of the Analysis Commission.

4. Activity 4: Preparing and carrying out exchanges of experience, networking with authorities, institutions or bodies of national and international public administrations.

Event: Working groups on elaboration of policies and follow-up on POCA project objectives implementation



Figure 8: Experts meeting for registration proposals [24]

As regards the project targeted group, there are frequently organized meetings at MADR level to brainstorm the elaboration of the policies envisioned by the POCA project.

Experts from MADR technical directorates together with ANSVSA representatives gather to analyse the current legislation and the amendments that it should suffer, but also to elaborate new legislative

proposals for traceability of agri-food products, to comply with **all POCA project expected Results** (elaborating procedures for reducing bureaucracy in citizen interaction - public institutions, elaborating procedures and regulations affecting the business environment in the agri-food sector, elaborating of a package of public policy proposals in the agri-food field, creating an active fund of legislation in the agri-food field and transfer of knowledge and the creation of new skills for MADR staff).

The main activities carried out within these meetings are:

- the selection and evaluation of public policy areas with a major impact on the activity of the ministry;
- strengthening the capacity of MADR in the field of public policy cycle management (elaboration, implementation, monitoring and evaluation of public policies);
- analysing the coherent medium and long-term visions - horizon 2020/2030;
- establishing guidelines for the development of the agri-food sector as

well as a package of technical notes that will facilitate the elaboration of public policy documents specific to the fields in the MADR portfolio;

- performing complex analyses at the level of some structures of the agricultural administration (at central level, subordinate institutions or decentralized institutions);
- elaborating of the Integrated Institutional Strategic Plan (integrated approach of the management component and the budget component) - establishing the priorities of the agricultural administration;
- elaborating a set of recommendations and proposals for the restructuring of the agricultural administration;
- developing specific strategic planning tools (to process and correctly value information, develop strategic maps and other tools).

These meetings respond to the project specific **Objectives 1, 2, 4 and 5** and to all expected **Results**.



Figure 9: Panel of results (Source: Internal document)

5. Activity 5: Analysis of the agri-food sector on four major levels:

- a) from the point of view of traceability and integrity of agri-food products;
- b) in terms of managing market crises, price volatility and crop disease or pest infestation;
- c) from the point of view of promotion, marketing and advertisement;
- d) in terms of monitoring and quantifying food waste.

This activity is part of the Agreement for reimbursable consulting services, concluded with the World Bank on 06 of June 2021.

The term of finalizing the study was in October 2022. Activities specific to the approval process of the study developed by the World Bank: the document *Study 1* was received, the members of the Analysis Committee met to formulate observations.

6. Activity 6: Analysis and evaluation of the active fund of legislation in the field of traceability, integrity, crisis management, reduction of agri-food waste and elaborating a package of proposals to supplement, amend or initiate the legislation in the field. This activity is part of the Agreement for reimbursable consulting services, concluded with the World Bank on 06 of June 2021. The term of finalizing the study was in October 2022. Activities specific to the approval process of the study developed by the World Bank: the document *Study 2* was received, the members of the Analysis Committee met to formulate observations.

7. Activity 7: Analysis to measure the costs of compliance of operators with the legislation and identify solutions to simplify procedures and reduce administrative burden for the business environment in the agri-food sector.

This activity is part of the Agreement for reimbursable consulting services, concluded with the World Bank on 06 of June 2021.

The term of finalizing the study was in October 2022. Activities specific to the approval process of the study developed by the World Bank: the document *Study 3* was received in July 2023.

8. Activity 8: Analysis to identify public services for citizens that can be provided in a simplified and integrated manner.

This activity is part of the Agreement for reimbursable consulting services, concluded with the World Bank on 06 of June 2021. The term of finalizing the study was in October 2022. Activities specific to the approval process of the study developed by the World Bank: the document *Study 4* was received in July 2023.

Event: Working meeting with the World Bank regarding the evaluation of legislation in the field of traceability in the agri-food sector in Romania



Figure 10: World Bank meeting at MADR [28]

On September 8, 2020, a meeting organized together with the World Bank, the National Phytosanitary Authority, the

National Institute for Research and Development for Food Bioresources and the National Authority for Consumer Protection took place at MADR headquarters on the subject of the “*Agreement for the provision of reimbursable consulting services*” signed between the MADR and the World Bank on June 7, 2021 for elaborating four studies:

1. evaluation of the active fund of the legislation in the field of traceability;
2. measuring the compliance costs of operators in the agri-food sector with the legislation;
3. identifying public services for citizens that can be provided in a simplified manner;
4. diagnosis analysis of the agri-food sector in Romania on 4 pillars (traceability and integrity of agri-food products, managing market crisis situations and price volatility, promoting agri-food products and monitoring and quantifying food waste).

The World Bank which, through its consultants, Farelly & Mitchell, develops the analysis of the active fund of the legislation in the field of traceability, integrity, crisis management, commercialization of agri-food products and reduction of food waste.

Disclosure of data from the studies carried out by the World Bank is forbidden through disclosure agreement signed with MADR.

This activity responds to **Objectives 1, 2 and 4** and expected **Results 1, 2 and 3**.

9. Activity 9: Elaborating public policy proposals in the fields of traceability and integrity of agri-food products, crisis management, promotion of agri-food products and reduction of food waste that are the basis for the creation of the National Strategic System. In order to develop public policy proposals, 8 experts were recruited. Activity 9 is under development and is also correlated with the results of other activities.

10. Activity 10: The creation and implementation of the integrated IT management and monitoring system (SIIMM).

In order to implement the A10 activity, employment contracts were concluded with SIIMM implementation experts, specifications were developed for hardware and software procurement procedures.

The hardware procurement procedure was completed, the software procurement procedure was completed with the conclusion of the Framework Agreement and the subsequent Contract no. 1 in progress. In order to implement the activity, regular working meetings were organized with the experts responsible for the implementation of the SIIMM and with all the parties involved in the implementation process.

Event: The auction for SIIMM successfully concluded

The project started the initiation of actions, analyses and debates regarding the development of a concept of an “Integrated IT Management and Monitoring System” in the agri-food sector (SIIMM).

SIIMM is extremely useful to identify in the shortest possible time the traceability and integrity of agri-food products, possible causes of issues that generate commercial conflicts involving consumer food safety, market trends, the evolution of demand and supply of agri-food products, as well as monitoring and quantification food waste.

The development of SIIMM was granted to the company *PHOENIX IT Brasov* and its subcontractors *Net Brinel* and *Aggranda Solutions*, on the 29th of January, 2023. The maximum and minimum values of the framework agreement are established at 1.2 mil EURO and, respectively, 750 thousand EURO.

The system is expected to become operational in the next 12 months, starting with January 2024.

The aim of the contract is the realization (respectively development and implementation) of an integrated management and monitoring computer

system in the agri-food sector (to provide data on production, processing, storage, marketing, consumption, import/export balance, domestic consumption forecasts and supply-demand on the domestic market as well as on new markets) based on a specific exchange of information through electronic interfaces with computer systems of other administrative entities such as: the Agency for Payments and Interventions in Agriculture, the Agency for Financing Rural Investments, the National Sanitary Veterinary and Food Safety Authority, the Carcass Classification Commission, the National Agency for Animal Husbandry and other institutions subordinate to MADR (in accordance with the measures provided for in the 2018 - 2020 Governance Program, Measure 16 - Program of legislative measures for the agricultural sector, which envisages the improvement of legislation in the field and the creation of a unitary monitoring system for agri-food products).

This activity responds to **Objectives 3** and **5** and expected **Results 4** and **5**.

11. Activity 11: Organization of training sessions in order to transfer knowledge and create new skills for MADR staff and participation at important European and international events.

The implementation of this activity is correlated with the dissemination of the results of the project activities.

Next steps in the project development:

For Activity 1: 2 audit reports will be elaborated, the first after the request for reimbursement of at least 50% of the total value of the project and the second at the end of the implementation period.

For Activity 2: Project closing conference and results dissemination; permanent information and media coverage of the project during its development.

For Activity 3: The documents related to Modules III and IV are to be delivered to the members of the Analysis Commission.

For Activity 4: Logistical details are to be established regarding the organization of two exchanges of experience, the running of exchanges of experience in other states and the elaboration of a final report on the good practices identified until September 2023.

For Activity 5 and Activity 6: In the next period, the World Bank will send *Studies 1 and 2* with the observations taken, to be submitted for analysis by the members of the Commission for Analysis.

For Activity 7 and Activity 8: The World Bank will prepare *Study 3 and Study 4* and the results will be published after the Romanian translation of the 4 studies, according to the concluded contract.

For Activity 9: Working groups will be organized for the elaboration of public policies based on the results generated by the other activities of the project.

For Activity 10: In order to implement the activity, will be organized regular working meetings with the experts responsible for the implementation of the SIIMM and with all the parties involved in the process.

For Activity 11: The deadline for completing the training sessions is December 13, 2023. There will be organized as the results from the project activities emerge.

CONCLUSIONS

The presence on the market of inappropriate food products (contaminated, inauthentic, falsified or double standards) or from unsafe and unauthorized sources have multiple negative effects on the business environment. Consumers are also affected by the asymmetries and lack of information generated by the product labels, which do not always indicate the ingredients of the product or do not provide complete information, as they do not have the opportunity to know exactly what they are consuming.

The biggest negative effect of the presence on the market of inappropriate agri-food products is the loss of consumer

confidence in the national food industry and in the institutions empowered to regulate this aspect.

A series of options have been identified to respond to the problem of food fraud, such as: developing the institutional framework for preventing and combating food fraud, establishing a transparent information, education and training system and promoting measures to combat food fraud.

Moreover, it is necessary that the aspects indicated during the project should be addressed in conjunction with the latest developments at the European level regarding the double standard of food.

Farmers, producers, processors, wholesalers or retailers and consumers are all actors in the food supply chain. Smaller operators in the food supply chain face UTPs (Unfair Trade Practices) more often because they generally have less bargaining power than larger operators in the chain.

Also, the occurrence of epizootic crises or the infestation of crops with diseases and pests can cause serious imbalances in the market, requiring rapid reaction capacity for recovery and minimizing the economic and social effects generated. For these reasons, the development of the project is vital for the Romanian agri-food market. The results of the POCA project could be used for the development and implementation of the National Strategic Program, but also for what will be strategized in the future regarding traceability, from the point of view of food safety.

The lack of updated information and data regarding the production of agricultural and processed products, domestic and international consumption trends, does not offer the possibility of achieving a balance between demand and supply and of orienting food production towards market demand, generating food surplus, which turns into food waste. Moreover, food waste represents a problem that is increasingly being addressed worldwide, being a factor that generates waste of all resources used in

food production: arable land, water, energy, raw material, thus causing an increase in CO₂ emissions and pollution.

Even if the project started in September 2019, because of COVID-19 the activities were delayed by 2 years (2020-2021). The first steps were made starting with 2022 and none of the objectives are reached at this point in time.

There are some activities that will deliver results in the forthcoming period and by the end of this year the project will be finalized.

The POCA project is still in progress, following that the analysis of the internal and external environment will be carried out, the identification of solutions and the systematization of the necessary regulatory framework, the formulation of proposals for the configuration of structures, the optimization of processes and the preparation of human resources for the development and implementation of public policies based on evidence regarding the traceability and integrity of agri-food products, management of crisis situations in the market, of price volatility or infestations with diseases or crop pests, marketing and promotion of agro-food products and quantifying food waste. At the same time, by the end of this project, it will also simplify market legislation and reduce administrative burdens for the business environment and citizens.

Further research can be concluded based on the final results of the project, the impact (especially over the Romanian legislative framework) and on events that will be carried out in the future.

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REFERENCES

1. M. Espiñeira and F. Santaclara, *Advances in Food Traceability Techniques and Technologies (Improving Quality Throughout the Food Chain)*, 1st Edition ed., Virgo, Spain: Woodhead Publishing, 2016.
2. T. Antonio, "Trasabilitatea: ce reprezinta si cum poate determina gestionarea de produse? (Traceability: what does it represent and how can it determine product management?)," 2021. [Online]. Available: <https://topexpert.ro/news/trasabilitatea-ce-reprezinta-si-cum-poate-determina-gestionarea-de-produse>. [Accessed 2023].
3. I. Smith and A. Furness, *Improving Traceability in Food Processing and Distribution*, 1st Edition ed., Woodhead Publishing, 2006.
4. C. Galanakis, *Food Authentication and Traceability*, 1st Edition ed., Academic Press, 2020.
5. ITC, "International Trade Center: TRACEABILITY IN FOOD AND AGRICULTURAL PRODUCTS BULLETIN NO 91/2015," 2015. [Online]. Available: <https://intracen.org/media/file/12127>. [Accessed 2023].
6. L. R. Simionescu, G. L. Margarit and C. P. Cornea, "GMO IDENTIFICATION IN FOOD AND FEED FOR 2019 AND 2020," *Scientific Papers. Series A. Agronomy ISSN 2285-5785; ISSN CD-ROM 2285-5793; ISSN Online 2285-5807; ISSN-L 2285-5785*, pp. Vol. LXIV, No. 1 pages 732-740, 2021.
7. N. Gupta, G. Soni, S. Mittal, I. Mukherjee, B. Ramtiyal and D. Kumar, "Evaluating Traceability Technology Adoption in Food Supply Chain: A Game Theoretic Approach," *Sustainability*, vol. 15, no. 2, p. 898, 2023.
8. S. Khan, A. Haleem, M. I. Khan, M. H. Abidi and A. Al-Ahmari, "Implementing Traceability Systems in Specific Supply Chain Management (SCM) through Critical Success Factors (CSFs)," *Sustainability*, vol. 10, no. 1, p. 204, 2018.
9. D. C. Dopico, R. Mendes, H. Silva, V. Verrez-Bagnis, R. Pérez-Martín and C. Sotelo, "Evaluation, signalling and willingness to pay for traceability. A cross-national comparison," *Spanish Journal of Marketing - ESIC*, vol. 20, no. 2, pp. 93-103, 2016.
10. P. Olsen and M. Borit, "How to define traceability," *Trends in Food Science & Technology*, vol. 29, no. 2, pp. 142-150, 2013.
11. A. Corallo, M. E. Latino, M. Menegoli and P. Pontrandolfo, "A systematic literature review to explore traceability and lifecycle relationship," *International Journal of Production Research*, vol. 58, no. 20, pp. 4789-4807, 2019.
12. B. Hou, L. Wu, X. Chen, D. Zhu, R. Ying and F.-S. Tsai, "Consumers' Willingness to Pay for Foods with Traceability Information: Ex-Ante Quality Assurance or Ex-Post Traceability?," *Sustainability*, vol. 11, no. 5, p. 1464, 2019.
13. A. Regattieri, M. Gamberi and R. Manzini, "Traceability of food products: General framework and experimental evidence," *Journal of Food Engineering*, vol. 81, no. 2, pp. 347-356, 2007.
14. F. Schwägele, "Traceability from a European perspective," *Meat Science*, vol. 71, no. 1, pp. 164-173, 2005.
15. R. Mehannaoui, K. N. Mouss and K. Aksa, "IoT-based food traceability system: Architecture, technologies, applications, and future trends," *Food Control*, vol. 145, p. 109409, 2023.
16. O.-R. RUSU, I. MIHA, V.-C. FLORIȘTEAN, A. BORȘ, C. RÎMBU, M. GRECU, L.-I. AILINCĂI and G. VLAD, "Traceability - an important step in food safety," *Lucrări Științifice Seria Medicină Veterinară, USAMV Iași*, vol. 63, no. 2, 2020.
17. European Communities, "Food Traceability," June 2007. [Online]. Available: https://food.ec.europa.eu/system/files/2016-10/gfl_req_factsheet_traceability_2007_en.pdf. [Accessed 2023].
18. EU Parliament and Council, "Directive 2001/95/EC of the European Parliament and of the Council of 3 December 2001 on general product safety," 03 December 2001. [Online]. Available: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32001L0095&from=RO>. [Accessed 2023].
19. EU Parliament and Council, "Regulation (EC) No 178/2002 of the European Parliament and of the Council of 28 January 2002 laying down the general principles and requirements of food law, establishing the European Food



- Safety Authority and laying down procedures in matters of food saf," 28 January 2002. [Online]. Available: <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32002R0178&from=EN>. [Accessed 2023].
20. ANSVSA, "EVALUAREA SISTEMULUI PRIVIND ASIGURAREA TRASABILITĂȚII (Evaluation of the system regarding traceability)," [Online]. Available: http://www.ansvsa.ro/download/proceduri_-_toate/ps_nonanimal/Evaluarea-sistemului-privind-asigurarea-trasabilitatii.pdf. [Accessed 2023].
21. Government, " Programul de guvernare 2018-2020 (Government Program 2018-2020)," 2018. [Online]. Available: <https://cl.prefectura.mai.gov.ro/wp-content/uploads/sites/35/2019/02/program-guvernare-2018-2020.pdf>. [Accessed 2023].
22. MADR, "PREZENTARE PROIECT (Project presentation)," 2019. [Online]. Available: <https://www.madr.ro/docs/minister/2019/proiecte-poca/proiect-poca-transabilitate-.pdf>. [Accessed 2023].
23. MADR, "Legislatie (Legislation)," [Online]. Available: <https://www.madr.ro/legislatie.html>. [Accessed 2023].
24. MADR, "Trasabilitatea si integritatea produselor agroalimentare - POCA 126983," 10 05 2023. [Online]. Available: <https://www.facebook.com/photo/?fbid=464172429072613&set=a.254297740060084>.
25. A. Cenușă and F. Arion, "EXPANDING GEOGRAPHICAL INDICATIONS," *ANIMAL & FOOD SCIENCES JOURNAL IASI*, vol. 78, no. 2, pp. 152-164, 2022.
26. MADR, "MADR deruleaza un proiect pentru imbunatatirea sistemului strategic national de trasabilitate si integritate a produselor agroalimentare (MADR is running a project to improve the national strategic system of traceability and integrity of agri-food)," 2021. [Online]. Available: <https://www.gazetadeagricultura.info/informatii-utile/742-siguranta-alimentara/22784-madr-deruleaza-un-proiect-pentru-imbunatatirea-sistemului-strategic-national-de-trasabilitate-si-integritate-a-produselor-agroalimentare.html>. [Accessed 2023].
27. MADR, "Proiect POCA - trasabilitate (POCA Project- Trasability)," 2020. [Online]. Available: <https://www.madr.ro/proiecte-cu-finantare-nerambursabila/proiect-poca-transabilitate.html>. [Accessed 2023].
28. MADR, "Trasabilitatea si integritatea produselor agroalimentare - POCA 126983," 08 05 2023. [Online]. Available: <https://www.facebook.com/photo/?fbid=207455954442714&set=pcb.207456097776033>.
29. MADR, "Trasabilitatea si integritatea produselor agroalimentare - POCA 126983," 02 05 2023. [Online]. Available: <https://www.facebook.com/100064395805455/videos/3829524963752715>.
30. MADR, "Trasabilitatea si integritatea produselor agroalimentare - POCA 126983," 10 05 2023. [Online]. Available: <https://www.facebook.com/photo/?fbid=188378933017083&set=pcb.188379419683701>.
31. MADR, "Trasabilitatea si integritatea produselor agroalimentare - POCA 126983," 10 05 2023. [Online]. Available: <https://www.facebook.com/photo/?fbid=473325904823932&set=a.473331898156666>.