Chapter N (please do not write anything in this line. Editors will annotate the chapter number)

The S-LCA applied in a research project and social conditionality of the new Common Agriculture Policy 2023-2027

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**Abstract.** We contributed to the research project titled Innovations in Organic Farming to Improve the Sustainability of Apulian Farms for Cereals and Industrial Crops. We aimed to define a new agro-ecological model based on the crop rotation of some of the main Apulian herbaceous crops (industrial tomatoes, durum wheat, and legumes). We also aimed to improve the competitiveness of organic crops through experimentation with pilot farms to measure sustainability. In 2021, the reform of the Common Agriculture Policy 2023-2027 (CAP) introduced a new mechanism of ‘social conditionality’, relating to the conditions of workers, to which the obtaining of income support is linked. The application of social conditionality on a voluntary basis is expected to occur from 2023 to 2025, and then becomes mandatory. The social life cycle assessment (S-LCA) methodology was used in the project to assess social sustainability. The paper aims to define the S-LCA methodology to be implemented in the project, which includes the requirements of the social conditionality of the CAP 2023-2027, for the health and safety subcategory and for the new employment relationship.

**Keywords.** Social Sustainability, S-LCA, Organic farming, LCA, Social Conditionality, CAP 2023-2027.

# N.1 Introduction

We contributed to the research project titled Innovations in Organic Farming to Improve the Sustainability of Apulian Farms for Cereals and Industrial Crops. We aimed to define a new agro-ecological model based on the crop rotation of some of the main Apulian herbaceous crops (industrial tomatoes, durum wheat, and legumes). We studied solutions and innovations to improve the competitiveness of organic crops through experimentation using pilot farms to achieve increased productivity and sustainability. In 2021, the reform of the Common Agriculture Policy (CAP) for 2023-2027 introduced a new mechanism of ‘social conditionality’, relating to the conditions of workers, for whom obtaining income support is linked. The social life cycle assessment (S-LCA) methodology was used in the project to assess of social sustainability. It provided for the LCA (ISO, 2021) and aimed to achieve objectives of the 2030 Agenda. The paper aims to define the S-LCA methodology to be implemented in the project, including the social conditionality (SC) requirements of the CAP 2023-2027. We analyze the adoption of S-LCA in the context of the workers as the stakeholders in the health and safety impact subcategory and for the new employment relationship according to UNEP guidelines updated in 2020 (UNEP, 2020).

# N.2 New CAP and Social Conditionality

The reform of CAP 2023-2027 establishes rules on support for strategic plans to be drawn up by member states. Article 14 of Regulation (EU) 2021/2115 introduces the SC by which farmers and other beneficiaries receive direct or annual payments (OJEU, 2021). The payments are subject to an administrative penalty if they do not comply with the requirements related to the respect of certain fundamental principles according to applicable working and employment conditions or employer obligations arising from the legal acts (in Annex IV). The main reason for the introduction of SC lies in the widespread recognition of abuses observed on farms employing a large workforce, especially seasonal workers. Among the socioeconomic impacts of the CAP, employment is one of the most important factors. Indeed, employment has been the only consistently relevant topic in studies carried out since 2005 (the year in which socioeconomic issues became an important part of the CAP) (Lillemets et al., 2022). Finally, we point out that the application of SC on a voluntary basis is expected to occur from 2023 to 2025 and then becomes mandatory. In addition, the European Commission will examine the functioning and the scope of this mechanism by 2027 (OJEU, 2021).

Table 1 - Measures to encourage improvements in the safety and health of workers at work (Directive 89/391/EEC) objectives of SC, PAC 2023-2027

|  |  |
| --- | --- |
| **Art.** | Directive 89/391/EEC |
| 5 | General provision defining employer’s duty to ensure workers’ safety and health |
| 6 | General obligation of employers to take measures necessary to protect safety and health, including prevention of risks and provision of information and training |
| 7 | Protective and preventive services: Worker/s to be designated for health and safety activities or competent external service to be engaged |
| 8 | Employer to take measures for first aid, fire-fighting, and evacuation of workers |
| 9 | Obligations of employers regarding assessment of risks, protective measures, and equipment, as recording and reporting of occupational accidents |
| 10 | Provision of information to workers on safety and health risks and protective and preventive measures |
| 11 | Consultation and participation of workers in discussions on all questions relating to safety and health at work |
| 12 | Employer to ensure workers receive adequate safety and health training |

Source: Directive 89/391/EEC (OJEC, 1989) in Annex IV, Rules on SC pursuant to Article 14 of Regulation (EU) 2021/2115 (CAP Strategic Plan) (OJEU, 2021)

# N.3 Material and methods

In applying the S-LCA methodology to according to ISO 14040:2021 (ISO, 2021), we used guidelines UNEP updated in 2020 (UNEP, 2020) and methodological sheet updated in 2021 (UNEP, 2021). Attention has been paid to the context of the workers as stakeholders in the health and safety impact subcategory and for the new employment relationship, in relation to the two areas of the social conditionality:

* Health and safety (Directive 89/391/EEC (OJEC, 1989) to encourage improvements in the safety and health of workers and Directive 2009/104/EC (OJEU, 2009) on the minimum safety and health requirements for the use of work equipment by workers) (Table 1-2)
* Employment (Directive 2019/1152 (OJEU, 2019) on transparent and predictable working conditions) (Table 3)

Table 2 - Minimum safety and health requirements for use of work equipment by workers (Directive 2009/104/EC) objectives of SC, PAC 2023-2027

|  |  |
| --- | --- |
| **Art.** | Directive 2009/104/EC |
| 3 | General obligations to ensure that work equipment is suitable for work to be carried out by workers without impairment of safety or health |
| 4 | Rules concerning work equipment: Equipment must comply with the directive and established minimum requirements and must be adequately maintained |
| 5 | Inspection of work equipment: Equipment to be inspected after instalment and periodic inspections by competent persons |
| 6 | Work equipment involving specific risks to be restricted to persons tasked with using it and all repairs, modifications, and maintenance to be performed by designated workers |
| 7 | Ergonomics and occupational health |
| 8 | Workers to receive adequate information and, where appropriate, written instructions on use of work equipment |
| 9 | Workers to receive adequate training |

Source: Directive 2009/104/EC (OJEU, 2009) in Annex IV, Rules on SC pursuant to Article 14 of Regulation (EU) 2021/2115 (CAP Strategic Plan) (OJEU, 2021)

Table 3 - Transparent and predictable working conditions (Directive 2019/1152) objectives of SC, PAC 2023-2027

|  |  |
| --- | --- |
| **Art.** | Directive 2019/1152 |
| 3 | Employment conditions to be provided in writing (‘employment contract’) |
| 4 | Assurance that agricultural employment is subject to an employment contract |
| 5 | Employment contract to be provided within first 7 days of working |
| 6 | Changes to the employment relationship to be provided in documentary form. |
| 8 | Probationary period |
| 10 | Conditions regarding minimum predictability of work |
| 13 | Mandatory training |

Source: Directive 2019/1152 (OJEU, 2019) in Annex IV, Rules on SC pursuant to Article 14 of Regulation (EU) 2021/2115 (OJEU, 2021)

We employed the S-LCA methodology for the evaluation of the social sustainability of the agro-ecological model experimented with the research project. Its system boundaries extend from the “gate of the firm to the gate of the product collection center, and any by-products”, according to the circular economy. Subsequently, we identified the social performance indicators, based on the reference documents (UNEP, 2020) (UNEP, 2021) (Harmens, 2022) and the European legislation referred to by the SC (Table 1- 3).

We used the indicators to realize the impact assessment in the scale reference (not covered in this paper).

Table 4 - List of questions on the S-LCA Questionnaire (Health and Safety Subcategory) that satisfy SC of the PAC 2023-2027 to meet Directive 89/391/CEE

|  |  |
| --- | --- |
| **Questions relating to the Health and Safety subcategory in the S-LCA Questionnaire** | **Articles Directive**  |
| 54. Is there a documented workplace health and safety policy on the farm? 54.2 If the answer is affirmative, indicate how the policy communicated to ensure workers are adequately informed of the policy and the measures adopted relating to the aforementioned occupational health and safety risks. | 6 - 9 - 10 |
| 54.3 Are the general measures necessary for the protection of safety in the workplace adequate? 54.3.1 If the answer is affirmative, indicate the main ones (information, training, equipment, procedures, etc.). | 5 - 6 - 10 - 12 |
| 55. Have preventive measures and emergency procedures for accidents and/or injuries been adopted? 55.1 If the answer is affirmative, indicate the main ones (information, training, equipment, procedures for first aid, firefighting and evacuation of workers, etc.). | 6 - 8 - 9 - 10 - 12 |
| 56. Have employees been appointed for the responsibilities connected with activities relating to health and safety in the workplace or have competent external services been used? 56.1 Has the employer appointed a “person in charge” who must supervise compliance with company provisions on health and safety at work and who is obliged to intervene and suspend the activity of workers who do not comply with the provisions, even in the case of deficiencies in the means and work equipment and in any dangerous condition detected during surveillance? 56.1.1 Has the employer/manager adequately informed (tracing this activity) the person in charge of these new supervisory obligations and the methods of communicating violations? 56.1.2 Does the person in charge of reporting this supervisory activity in written form also have to prove his or her effectiveness of action? 56.2 Has the employer registered all the tasks and activities for which training is mandatory with the relevant workers to be trained for the correct and safe use of equipment, machines, systems, substances, and devices, including personal protection? In addition, has the employer identified the experienced people who need to deliver the training? Has a training calendar been drawn up with a relative register (paper or electronic, etc.) to track the training interventions? | 7 |
| 64. Does the employer offer any documents and/or training programs on the risks of injury for workers? 65. How often (month, year, etc.) are documents and/or training programs on the risks of accidents for workers created end/or updated? 66. Does the employer have any recordings (documents, audio, video, etc.) of the latest accident-prevention-training program? | 6 - 12 |
| 71. Is there provision for consultation of workers and their participation in discussions on all issues relating to safety and health protection in the workplace? | 11 |

Source: Adapted from Articles 5-12 of Directive 89/391/CEE (OJEC, 1989)

Therefore, we considered the indicators both in the phase of formulating the questions of the S-LCA Questionnaire to be administered to the owner and workers of the pilot farms of the project and in the verification phase of the related documents made available.

Finally, we associated these questions with the respective articles of the European Directives considered for the SC of the CAP.

# N.4 Results and discussions

Table 4-6 show the questions of the S-LCA Questionnaire associated with the respective articles of the European directives relating to SC (Table 1-3). This association will make it possible to assess the level of social sustainability and compliance of the firm with the SC simultaneously to reduce the possibility of losing the benefits of the CAP.

Table 5 - List of Questions Questionnaire S-LCA (Health and Safety Subcategory) that satisfy the Social Conditionality (SC) PAC 2023-2027 to meet Directive 2009/104/EC

|  |  |
| --- | --- |
| **Questions relating to the Health and Safety subcategory in the S-LCA Questionnaire** | **Articles - Directive**  |
| 54. Is there a documented workplace health and safety policy on the farm? 54.2 If the answer is affirmative, indicate how the policy is communicated to ensure workers are adequately informed of the policy and the measures adopted relating to the aforementioned occupational health and safety risks. | 8 |
| 55. Have preventive measures and emergency procedures been adopted for accidents and/or injuries? 55.1 If the answer is affirmative, indicate the main ones (information, training, equipment, procedures for first aid, firefighting and evacuation of workers, etc.) | 8 - 9 |
| 57. Is the equipment adequate for the work that workers have to carry out without compromising their health and safety in the workplace? | 3 |
| 57.1 Is work equipment properly maintained? | 4 |
| 57.2 Do any measures provide for the verification/calibration of work equipment after installation and periodic checks by competent personnel? | 5 |
| 57.3 Is the use of work equipment that presents a specific risk reserved only for assigned workers? 57.3.1 Of such specific risky equipment, are all repairs, conversions, and maintenance performed only by designated workers? | 6 |
| 57.4 Are there specific indications on ergonomics and health in the workplace? | 7 |
| 64. Does the employer offer any documents and/or training programs on the risks of accidents for workers? 65. How often (month, year, etc.) are documents and/or training programs on accident risks for workers created/updated? 66. Does the employer have any recordings (documents, audio, video, etc.) of the latest training program on accident prevention? | 9 |

Source: Adapted from Articles 3-9 of Directive 2009/104/EC (OJEU, 2009)

Without any extensions deriving from the crisis generated by the consequences of the ongoing war in Ukraine, the introduction of management systems to meet the requirements of the SC becomes a priority for farms. Farmers need management system to avoid losing the benefits of the CAP, which over the years has increasingly represented the (real) profitability of agricultural activity (in Southern Italy about 50%) (Frascarelli et al., 2021).

Table 6 - List of Questions Questionnaire S-LCA Sub-category 'Employment relationship' that meet the Social Conditionality (SC) PAC 2023-2027 to meet Directive 2019/1152

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| --- | --- |
| **Questions relating to the 'Employment relationship' subcategory in the S-LCA Questionnaire**  | **Articles Directive** |
| 91. Does a written contract define the relationship between the employer and workers (with rights/duties and responsibilities of each)? | 3 - 4 |
| 92 Do the workers receive a copy of the signed employment contract? | 3 - 4 |
| 92.1 If the answer is affirmative, do the workers receive the signed employment contract within 7 days? | 5 |
| 92.3 Is there a written amendment, possibly recorded in a register of contracts? | 6 |
| 93. If the employment legislation provides for a trial period, is it carried out? | 8 |
| 94. Are there conditions of minimum predictability of the work? | 10 |
| 95. If the labor legislation provides for compulsory training, is it provided? | 13 |

Source: Adapted from Articles 3-6, 8, 10, 13 of Directive 2019/1152 (OJEU, 2019)

**N.5 Conclusions and future perspectives**

The use of the S-LCA for the measurement of social sustainability in the research project makes it possible to monitor compliance with European legislation of the SC. The S-LCA methodology seems to represent an effective tool for the definition and adoption of the measures and/or interventions that can satisfy the requests of the SC. Therefore, the S-LCA in the voluntary testing phase of the SC could provide valid support to prevent and promptly manage any lack of compliance. In this sense, the S-LCA methodology according to the achievement of the SC could be useful for all EU member states. The S-LCA Questionnaire’s items is currently being administered. Future research will concern the empirical verification of the usefulness of the S-LCA methodology for the purposes of the SC.

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**Contribution of the authors**

A.E. Di Noia carried out the bibliography, the collection and processing of the data, G.M Cappelletti and A.E Di Noia carried out the application of the methodology, G.M. Nicoletti and C. Russo reviewed the paper.