

## SAFETY AND HEALTH IN AGRI-FOOD SECTOR SUPPLY CHAINS: THE POWER OF COMBINING CONTRACTUAL AND RELATIONAL GOVERNANCE

### Background

This policy brief is an outcome of the European Agency for Safety and Health at Work (EU-OSHA) project 'Leverage Instruments for Occupational Safety and Health – Lift-OSH' (EU-OSHA, 2023). It provides a comprehensive overview of the main leverage instruments and practices applicable in the agri-food sector to improve occupational safety and health (OSH) and working conditions in the supply chain. In the brief we specifically focus on the potential of hybrid forms of contractual and relational governance. We outline the possible positive benefits of hybrid governance forms for OSH and working conditions. The selected cases were best practice buying companies, the objective is to discuss the possible positive influence on OSH through supply chains. A more holistic discussion of supply chain influence including also negative impacts can be found in the full report of the Lift-OSH project (EU-OSHA, 2024).

Our aim with the policy brief is to summarise the results of our project and make them available to policymakers, employers, practitioners and organisations in the agri-food sector.

### The agri-food sector and OSH in supply chains

Agri-food supply chains are typically complex, involving multiple stakeholders, from farmers and producers to retailers and consumers. The engagement of several suppliers at different supply chain tiers introduces complexities in terms of OSH responsibilities and accountability. The agri-food sector operates within a highly regulated environment when it comes to consumer food safety and environmental concerns. However, the agri-food sector is simultaneously characterised by multiple challenges related to physical, chemical and biological hazards, high accident risks, seasonal and temporary workforce, and diverse work environments. Each stage of the supply chain — including farming, processing, packaging and distribution — presents unique OSH challenges due to the varied work environments, such as fields, farms, processing plants, warehouses and transportation.

### Types of leverage instruments used in agri-food sector

#### *Formal contractual governance*

Contracts form the basis of business relationships and transactions in the agri-food sector. While they can take various forms, not all contracts need to be explicitly written; many are formed implicitly through customary business practices and verbal agreements. We find that formal written contracts are more powerful to provide stable buyer–supplier relationships and consequently working conditions.

By formal contractual governance we mean various forms of formal tendering and contracting as well as auditing and monitoring suppliers' work processes that can be utilised by buyers to influence OSH in their supply chain. However, contractual governance has limitations for both buyer and supplier since it is almost impossible to specify all contingencies in a formal contract.

Examples of formal contractual governance tools found in our study to influence OSH and working conditions are as follows:

- Written contractual agreements about volumes and prices, specific OSH requirements from the focal firm.
- Codes of conduct (CoC), and supplier monitoring, audits and certification schemes specifically aimed at the agri-food sector.

Table 1: Contractual governance in the agri-food sector

Market leverage	Description	Supply chain benefits	OSH and working conditions, benefits
Formal contractual agreements	Volumes and prices are predefined and agreed in a formal contract.	Stability/Reliable volume/delivery performance.	Stable returns for suppliers (i.e. farmers). Stable employment for workers. Stable working hours/limited extra hours for workers and farmers.
	Product quality and delivery requirements.	Food quality and safety. Reliable delivery performance.	To give sufficient notice about delivery/definition of delivery time avoids pressure and allows better working time planning.
Contractual OSH requirements	OSH requirements in the focal firm warehouse.	Speed-up loading and unloading activities.	Reduce safety accidents and ergonomics problems.
	Certifications and audits including OSH requirements.	Food quality and safety. Environmental performance.	<ul style="list-style-type: none"> <li>▪ Diffusion of OSH culture, OSH risk assessment and management system.</li> <li>▪ Control on the usage of pesticides in certifications.</li> </ul>

**Formal contractual agreements** should prevent supply chain partners from prioritising their own interests and protect both parties in the relationships. Such contracts usually include the specification of prices and volumes of the requested products and of quality and delivery requirements. Contractual agreements regarding prices and volumes might be a helpful tool to protect the buyer's and supplier's interests as they define the extent to which exchange parties are tied in a formal way that provides guarantees and ensures conformity in terms of duties, roles, rights and contingencies (Dolci et al., 2017). Such formalised contracts help in better planning and coordination for more reliable deliveries and to stabilise returns. They might also be accompanied by the request to sign a CoC and to provide certifications. The focal firms in our sample require different certifications from their suppliers, and in some cases, they have their own CoC and might do additional audits/visits to evaluate suppliers' practices and performance. Certifications and CoC often also address health and safety issues.

**Contractual OSH requirements** are often demanded by focal firms. They take multiple forms such as specific guidelines regarding OSH practices in the delivery and logistics processes in which both focal firms and suppliers are involved. Such requirements are often in place and enforced in relation to the loading and unloading activities performed in the focal firm's warehouses. However, such practices might have a positive impact on workers' health and safety also at the supplier site. Such requirements directly aim to reduce accidents and musculoskeletal disorders. At the same time, they facilitate loading and unloading activities with positive impacts on supply chain outcomes. An often-used requirement is that the focal firm requires suppliers to live up to certain internationally recognised standards. Table 2 summarises the main certificates implemented in the agri-food sector. All certification schemes are described in detail in the policy brief 'Standards and audits as a leverage practice to improve OSH in the European agri-food sector' that was recently published by EU-OSHA.<sup>1</sup>

<sup>1</sup> Available at: <https://osha.europa.eu/en/publications/supply-chain-governance-agriculture-standards-and-audits-improve-osh-european-agri-food-sector>

Table 2: Certifications in the agri-food sector and area of impact

Certificate name	Food quality elements	OSH elements	Environmental elements	National/International
GLOBALG.A.P. (good agricultural practices) <sup>2</sup>	X	X (GRASP <sup>3</sup> )	X	International
Integrated production certificate in Spain <sup>4</sup>	X	X	X	National
EFC Safe Food Compliance Spain <sup>5</sup>	X	X	X	National
Bord Bia in Ireland <sup>6</sup>	X	X	X	National
Amfori BSCI <sup>7</sup>		X		International
Social Accountability International (SAI) Member companies (SA8000) <sup>8</sup>		X		International
Ethical Trading Initiative (ETI) <sup>9</sup>		X		International
Initiative Clause Social (ICS) <sup>10</sup>		X		International
Sedex Members Ethical Trade Audit (SMETA) <sup>11</sup>		X		International
Worldwide Responsible Accredited Production (WRAP) <sup>12</sup>		X		International
SGE 21. Ethical and Socially Responsible Management System (Mainly used in Spanish speaking countries) <sup>13</sup>		X		International
IFS food safety <sup>14</sup>	X	X		International
Bioland (German standard for organic farming) <sup>15</sup>	X	X	X	International
Naturland <sup>16</sup>	X	X	X	International
Bioswiss <sup>17</sup>	X	X	X	International
Demeter <sup>18</sup>	X	X	X	International
HACCP (Hazard Analysis and Critical Control Points) <sup>19</sup>	X			National
BRCGS (British Retail Consortium Global Standard for Food Safety) <sup>20</sup>	X			International
FSA (Farm Sustainability Assessment) <sup>21</sup>	X			International

<sup>2</sup> See: [https://www.globalgap.org/uk\\_en/](https://www.globalgap.org/uk_en/)

<sup>3</sup> See: <https://www.globalgap.org/what-we-offer/solutions/grasp/>

<sup>4</sup> See: <https://www.mapa.gob.es/es/agricultura/temas/produccion-integrada/>

<sup>5</sup> See: <https://efcspain.com/en/safe-food-compliance-sfc/#>

<sup>6</sup> See: <https://www.bordbia.ie/farmers-growers/get-involved/become-quality-assured/>

<sup>7</sup> See: <https://www.amfori.org/content/amfori-bsci>

<sup>8</sup> See: <https://sa-intl.org/programs/sa8000/>

<sup>9</sup> See: <https://www.ethicaltrade.org/eti-base-code>

<sup>10</sup> See: <https://ics-asso.org/>

<sup>11</sup> See: <https://www.sedex.com/>

<sup>12</sup> See: <https://wrapcompliance.org/en/>

<sup>13</sup> See: [https://foretica.org/wp-content/uploads/2023/05/sge\\_21\\_ingles.pdf](https://foretica.org/wp-content/uploads/2023/05/sge_21_ingles.pdf)

<sup>14</sup> See: <https://www.ifs-certification.com/index.php/en/standards/4128-ifs-food-standard-en>

<sup>15</sup> See: <https://www.bioland.de/about-bioland>

<sup>16</sup> See: <https://www.naturland.de/en/producers/service-and-expertise/certification.html>

<sup>17</sup> See: <https://international.bio-suisse.ch/en/import-with-bio-suisse.html>

<sup>18</sup> See: <https://demeter.net/certification/standard/>

<sup>19</sup> See: [https://en.wikipedia.org/wiki/Hazard\\_analysis\\_and\\_critical\\_control\\_points](https://en.wikipedia.org/wiki/Hazard_analysis_and_critical_control_points)

<sup>20</sup> See: <https://www.bsigroup.com/en-ID/brc-global-standards/brc-global-standard-for-food-safety/>

<sup>21</sup> See: <https://saipatform.org/fsa/>

Certificate name	Food quality elements	OSH elements	Environmental elements	National/ International
ISO 22000 Food Safety Management <sup>22</sup>	X			International
FSSC 22000 Food Safety Management System <sup>23</sup>	X			International
FIAS standard (Fertilizer Industry Assurance Scheme) <sup>24</sup>	X			International
Leaf <sup>25</sup>	X			International

Certifications and standards play a strong role in the agri-food sector by strengthening adherence to quality throughout the supply chain and effectively communicating this to buyers and end consumers, often through designated certification logos. However, it is essential to recognise that voluntary certification schemes for agri-food supply chains have their inherent limitations. One is the reach of certification schemes, as auditing mainly has been applied to large farms within global supply chains and not their smaller sub-suppliers. The explanation for this is the significant cost associated with the certification process, including ongoing fees for technical support. Furthermore, the certification process itself can be lengthy and time-consuming, posing challenges for small companies that may lack the necessary resources to adequately prepare for certification. It is worth considering that certification schemes may not always result in direct improvements in working conditions for agri-food workers. Instead, companies in the agri-food sector may find other benefits more relevant, such as enhanced access to buyers, strengthened bargaining positions, technological upgrades and time savings due to reduced requirements for multiple audits.

While there is no doubt that contractual leverages are necessary instruments for the most effective OSH strategy in companies' supply chains, the relational aspects equally play a crucial role for bringing contractually stipulated specifications into the practice. They are mutually reinforcing as one is not effective without the other.

### **Relational governance**

Buyers rely on relational instruments and practices to build trust and coordinate the supply chain (Cao & Lumineau, 2015). Relational governance in a buyer–supplier dyad means that the relationship “...is governed by social relations and shared norms” (Um & Kim, 2019). Relational governance is thus an informal form of governance that relies on informal structures and self-enforcement of each part (Cao & Lumineau, 2015). Relational governance manifests in the development of the shared behavioural norms of flexibility, solidarity and information sharing (Bonatto et al., 2020; Poppo & Zenger, 2002). Shared norms are created via buyer support for supplier development and training efforts as well as frequent informal communication developing personal relations (Huq et al., 2016; Pagell & Wu, 2009). Relational governance emphasises the importance of trust, collaboration, informal communication and long-term relationships among supply chain partners to foster mutual benefits and promote responsible practices.

Table 3 summarises the main findings related to relational governance in the agri-food sector.

<sup>22</sup> See: <https://www.iso.org/iso-22000-food-safety-management.html>

<sup>23</sup> See: <https://www.fssc.com/schemes/fssc-22000/>

<sup>24</sup> See: <https://www.agindustries.org.uk/resource/fias-2021-standard--effective-from-april-2021.html>

<sup>25</sup> See: <https://leaf.eco/farming/leaf-marque>

Table 3: Relational governance in agri-food sector

Market leverage	Description	Supply chain benefits	OSH and working conditions, benefits
Duration of collaboration	Long term.	Better planning/Reliable delivery.  Quality standards (by knowing each other's expectations and capabilities).  New product development (e.g. apple varieties that take several years).  Machinery investments (better quality, delivery).	Stable returns for suppliers (i.e. farmers).  Stable employment for workers.
Buyer–supplier collaboration	Joint new product development, new packaging and production planning.	Better planning/Delivery performance.  New product development.	Higher/Stable profits for suppliers (i.e. farmers).  Long-term relationship/planning. Stable employment/working hours for workers.  Investment in machinery/new technology improving working conditions.
Informal buyer–supplier relationship	Person-to-person relationship and informal communication.	Mutual understanding/better planning.  Adaption of deliveries to the benefit of both parties.	Better planning/Stable returns for suppliers (i.e. farmers).  Stable working hours.  Less rush.
Supply chain flexibility	Mutual understanding in response to supply disruptions (e.g. accept late delivery, reduce product variety).	Stable delivery performance.  Flexibility performance. Risk management.	Reduced pressure/less workload. Stable working hours/limited extra hours.
Training and technical assistance for small (and second-tier) suppliers	Buyer firms provide technical and managerial knowledge and expertise, seeds, machinery, etc.	Better quality performance.  Stable delivery performance.  Improved environmental performance.	Better planning/Stable returns for suppliers (i.e. farmers).  Stable working hours for workers. Control on the usage of pesticides, agrochemicals, etc.

We found that focal firms in the sample tend to maintain a stable supply chain through **long-term sustainable buyer–supplier relationships**. Having a long-term relationship helps to counterbalance possible negative effects of power imbalances. In addition, long-term relationships favour coordination and communication and so better planning for more reliable delivery and quality standards outcomes. Yet, public procurements regulation sets limits for the duration of the relationship.

**Buyer–supplier collaboration** is also essential because buyers and suppliers usually have an interest in collaborating to achieve joint value creation, especially if they cannot get the same through a market transaction. Suppliers will decide how to adopt a practice or respond to a market leverage instrument partially based on assessment of the buyer's behaviour as fair or just. Despite it not being implemented to improve OSH and working conditions, buyer–supplier collaboration could have an indirect impact through stable production volumes and might help to ensure a minimum level of income for small farmers and establish more stable employment relationships and working hours.



**Personal relationships and informal communication** are important in maintaining long-term trust between the buyer and the suppliers. Both face-to-face meetings and informal communication are crucial for this. The personal relationship may even have an influence on the pricing so that workers can be potentially treated better because of a higher profit margin. Personal relationships and informal communications might help in keeping a long-term relationship as well as to develop shared norms and mutual understanding, helping to support supply chain outcomes such as delivery performance, especially in presence of uncertain demand, and better planning.

A key aspect to maintaining a fair and trustworthy relationship is to guarantee a certain **level of flexibility** in delivery in case of suppliers' issues, and this is part of relational governance tools. Supply chain flexibility is a key 'market leverage instrument' both to navigate the uncertainty of the last few years and maintain supply chain outcomes and stable deliveries. Hence, there is little to no evidence to be found in the scientific literature of how this relational governance mechanism has been used by buyers to improve OSH at suppliers. However, this might have an indirect impact on OSH and working conditions through reduced pressures and less workload. Indeed, flexibility in the supply chain can also reduce suppliers' delivery burden as indicated in multiple cases, and thus have a positive impact on supplier workers' health and wellbeing.

In addition to the other relational governance tools, **training and technical assistance** are used to support and develop small suppliers. We found that in some cases such training and technical assistance is often offered by first-tier to second-tier suppliers. The literature on sustainable purchasing (see for instance, Pagell et al., 2010) indicates that training should provide the foundations to develop the small suppliers into reliable and efficient suppliers, while also creating shared norms as well as mutual dependence and unique sustainability attributes for these food supply chains. Most of the sustainability attributes observed in the analysed cases were related to the food itself (e.g. local, organic, reduced packaging, etc.) and a sustainable long-term buyer–supplier relationship. In addition, this training has an indirect impact on OSH and working conditions. In the case of technical and environmental training of the other cases, it might help OSH by regulating the use of pesticides and agrochemicals.

### Hybrid forms of contractual and relational governance

This concept of hybrid forms of contractual and relational governance, which combine elements of formal contracts and collaborative relationships, offers opportunities to address OSH and working condition challenges effectively in the agri-food sector. Advantages of hybrid governance in agri-food supply chains in addition to contractual elements such as agreements together with CoC or certification schemes encompass open and frequent communication among supply chain partners, facilitating the exchange of crucial information related to OSH and working conditions. In addition, by fostering collaborative relationships together with specified OSH requirements, hybrid governance promotes shared responsibility among supply chain actors, creating a collective commitment to prioritise workers' OSH and wellbeing. Hybrid governance allows for greater flexibility and adaptability to address emerging OSH risks and changing working conditions, enabling swift responses and proactive measures. Also, the collaborative nature of hybrid governance facilitates the identification and implementation of best practices and engages open and transparent dialogue, fostering trust and mutual understanding as well as promoting ongoing improvement in OSH and working conditions.

## Conclusion

Hybrid forms of contractual and relational governance offer a promising approach to improving OSH and working conditions in agri-food supply chains. By combining the advantages of contractual (formal contracts, audits and certification schemes) and relational governance (collaborative relationships), this form of governance can foster trust, shared responsibility and continuous improvement. Implementing hybrid governance requires active engagement, collaboration and a collective commitment from all supply chain partners. By embracing this approach, the agri-food sector can make significant strides towards creating safer, healthier and more favourable work environments for its workers.

Most supply chain relationships have both contractual and relational elements. We emphasise the importance of consciously combining and balancing these two governance approaches to address specific challenges and improve OSH and working conditions in agri-food supply chains.

While traditional supply chains may have both contractual agreements and relational elements, they might not be optimally integrated or balanced. In some cases, the contractual aspect may dominate, leading to a compliance-focused approach. In other cases, a heavy reliance on relational governance

alone might lack formal structures and mechanisms to address issues effectively when they arise. The hybrid approach aims to reach the right balance, where both contractual and relational elements complement each other to create a more effective and resilient cooperation between the partners within the supply chain. In the current scenario analysed, relational governance is key to reinforcing the effects of contractual governance as it is difficult to monitor and enforce OSH practices by the buyer due to the complexity of the supply chain. Indeed, sharing trust and values through relational governance appears to be a more effective tool to extend awareness of OSH and working conditions.

In conclusion, hybrid governance represents a holistic and balanced approach to addressing OSH and working conditions in agri-food supply chains. By integrating contractual and relational elements, this governance enables supply chain partners to work together, build trust and continuously improve workplace safety. While contractual governance provides structure and accountability, relational governance fosters cooperation and flexibility. Striking the right balance between the two is essential for creating a sustainable and socially responsible supply chain that benefits all parties involved.

## References

- Bonatto, F., de Resende, L. M. M., & Pontes, J. (2020). Relational governance in supply chain: A systematic literature review. *Benchmarking: An International Journal*, 27(6), 1711-1741. Available at: <https://doi.org/10.1108/BIJ-01-2019-0033>
- Cao, Z., & Lumineau, F. (2015). Revisiting the interplay between contractual and relational governance: A qualitative and meta-analytic investigation. *Journal of Operations Management*, 33-34(1), 15-42. Available at: <https://doi.org/10.1016/j.jom.2014.09.009>
- Dolci, P. C., Maçada, A. C. G., & Paiva, E. L. (2017). Models for understanding the influence of supply chain governance on supply chain performance. *Supply Chain Management*, 22(5), 424-441. Available at: <https://doi.org/10.1108/SCM-07-2016-0260>
- EU-OSHA (2023) – European Agency for Safety and Health at Work, *Improving OSH through supply chains: market-based initiatives in the agri-food and construction industries*. Available at: <https://osha.europa.eu/en/publications/improving-osh-through-supply-chains-market-based-initiatives-agri-food-and-construction-industries>
- EU-OSHA (2024) – European Agency for Safety and Health at Work, *Supply chains' role in promoting safety and health in construction and agriculture: the LIFT-OSH project*. Available at: <https://osha.europa.eu/en/publications/supply-chains-role-promoting-safety-and-health-construction-and-agriculture-lift-osh-project>
- Huq, F. A., Chowdhury, I. N., & Klassen, R. D. (2016). Social management capabilities of multinational buying firms and their emerging market suppliers: An exploratory study of the clothing industry. *Journal of Operations Management*, 46(1), 19-37. Available at: <https://doi.org/10.1016/j.jom.2016.07.005>
- Poppo, L., & Zenger, T. (2002). Do formal contracts and relational governance function as substitutes or complements? *Strategic Management Journal*, 23(8), 707–725. Available at: <https://doi.org/10.1002/smj.249>
- Um, K.-H., & Kim, S.-M. (2019). The effects of supply chain collaboration on performance and transaction cost advantage: The moderation and nonlinear effects of governance mechanisms. *International Journal of Production Economics*, 217, 97-111. Available at: <https://doi.org/10.1016/j.ijpe.2018.03.025>
- Yadav, V. S., Singh, A. R., Raut, R. D., Mangla, S. K., Luthra, S., & Kumar, A. (2022). Exploring the application of Industry 4.0 technologies in the agricultural food supply chain: A systematic literature review. *Computers & Industrial Engineering*, 169, Article 108304. Available at: <https://doi.org/10.1016/j.cie.2022.108304>

---

Authors: Wanja Öhler (University of Southern Denmark) and Yanbing Chen (University College Dublin, Ireland).

Project management: Dietmar Elsler and Annick Starren - European Agency for Safety and Health at Work (EU-OSHA).

This policy brief was commissioned by the European Agency for Safety and Health at Work (EU-OSHA). Its contents, including any opinions and/or conclusions expressed, are those of the authors alone and do not necessarily reflect the views of EU-OSHA.

Neither the European Agency for Safety and Health at Work nor any person acting on behalf of the agency is responsible for the use that might be made of the above information.

© European Agency for Safety and Health at Work, 2024

Reproduction is authorised provided the source is acknowledged.

For any use or reproduction of photos or other material that is not under the copyright of the European Agency for Safety and Health at Work, permission must be sought directly from the copyright holders.