Annotated bibliography on

National Safety Regulations

Prepared by:

Hanah Sharak

December 2024

Technical Services Department

Table of Contents

Introduction

National safety regulations play a crucial role in protecting both workers and consumers, as well as promoting safe working environments across industries. This annotated bibliography examines national safety regulations from various countries and regions as they apply across various fields, such as construction, agriculture, and food safety. Systemic approaches to enhancing safety such as efforts to build and enhance safety culture are also explored.

This annotated bibliography features a collection of article abstracts from 2018 – 2024 selected for the benefit of the Quality, Health, Safety & Work Environment Department (QHSWED).

E-resources used: Web of Science — Science Direct — SSRN

Contact NSTIC to request full-text articles.

Articles' Abstracts

1. Cabrera, L., Di Piazza, G., Dujardin, B., Marchese, E., & Pastor, P. (2024). The 2022 European Union report on pesticide residues in food [Article]. *EFSA JOURNAL*, *22*(4), Article e8753.

Abstract: Under European Union legislation (Article 32, Regulation (EC) No 396/2005), the European Food Safety Authority provides an annual report assessing the pesticide residue levels in foods on the European market. In 2022, 96.3% of the overall 110,829 samples analysed fell below the maximum residue level (MRL), 3.7% exceeded this level, of which 2.2% were non-compliant, i.e. results in a given sample exceeded the MRL after taking into account the measurement uncertainty. For the EU-coordinated multiannual control programme subset, 11,727 samples were analysed of which 0.9% were non-compliant. To assess acute and chronic risk to consumer health, dietary exposure to pesticide residues was estimated and compared with available health-based guidance values (HBGV). Continuation of the probabilistic assessment methodology was consolidated to all pesticides listed in the 2022 EU Regulation providing the probability of a consumer being exposed to an exceedance of the HBGV. Overall, the assessed risk to EU consumer's health is low. Recommendations to risk managers are given to increase the effectiveness of European control systems and to ensure a high level of consumer protection throughout the EU.

2. Enquan, L., Shuwen, X., Yanlong, Y., & Sethi, N. (2024). A stochastic and time-delay evolutionary game of food safety regulation under central government punishment mechanism. *Heliyon*, *10*(9), e30126.

Abstract: Food safety is a pressing issue affecting public health, and strengthening food safety regulation has become a widespread consensus. This study addresses the three-party game involving food production enterprises, third-party testing agencies, and government regulatory authorities. Considering the influence of random disturbances and time delays on the strategy-choosing and behavioral evolution of game players, a three-party stochastic evolutionary game model for food safety regulation with time delays is established. The stability of the model is analyzed by using Lyapunov's method, and the strategy evolution of the game players is investigated while combining numerical simulations. The study shows that the net benefit of the players' expected strategies is key in determining whether the

overall game system can reach the optimal equilibrium. The level of penalties imposed by the central government on local government regulators is key to food safety. The main factors influencing the strategy-choosing of game players are the level of penalties imposed by the local government regulators on third-party testing agencies, together with the supervision costs of the local government regulators. Random disturbances have a certain impact on strategy-choosing of the game players, with a greater impact on testing agencies, followed by food production enterprises, and a weaker impact on government regulatory authorities. The time delay factors exhibit a certain delay effect on the evolutionary path of strategy-choosing among the game players, which aligns with the actual situation. The findings of the study have implications for food safety regulation.

3. Floyd, H. (2024). Through the Lens of System Safety: The Limitations of a Compliance-Based Safety Culture and Opportunities to Reduce Electrical Injuries [Article]. *IEEE INDUSTRY APPLICATIONS MAGAZINE*, *30*(3), 12-17.

Abstract: Since 1970, the discussion of occupational electrical safety in the United States has primarily focused on compliance with safe work practices in Occupational Safety and Health Administration (OSHA) regulations and National Fire Protection Administration (NFPA)70E, Standard for Electrical Safety in the Workplace. Without taking away from the importance of the requirements in the regulations and standards, this article discusses the limitations of compliance-based safety culture and a more comprehensive solution based on proven concepts derived from system safety. This article expands on the conference paper presented at the 2023 IEEE Industry Applications Society (IAS) Electrical Safety Workshop [1].

4. Kimanya, M. E. (2024). Contextual interlinkages and authority levels for strengthening coordination of national food safety control systems in Africa. *Heliyon*, *10*(9), e30230.

Abstract: Africa is the greatest contributor to the burden of foodborne diseases in the world. The problem is associated with the weak food safety control systems in many countries of Africa. Africa 's national food control systems are based on fragmented legislation which provide for multiple jurisdictions resulting in weaknesses in coordination, inspection and enforcement of food safety measures mandated to different sectors such as agriculture, trade, and health. It was hypothesized that the weak food safety legislation is a result of inability to contextualize and appreciate the Food and Agriculture Organization of the

United Nations (FAO) and the World Health Organization (WHO) guidelines for strengthening national food control systems. Raising awareness and knowledge on interlinkages and authority levels among the sectoral food safety actors can foster appreciation of the FAO and WHO recommendations and inform food safety policy reforms in the continent. This article highlights the interlinkages in food safety activities of the actors along the food chain. It also contextualizes the roles of each agency or ministry and proposes institutional arrangements to be considered in strengthening national food safety control systems in Africa.

5. Leake, L. L. (2024). Food Safety Regulations and Policies in Latin America. In G. W. Smithers (Ed.), *Encyclopedia of Food Safety (Second Edition)* (pp. 482-512). Academic Press.

Abstract: Food safety is a concern that is addressed within Latin America, but its respective standards, regulations and policies vary among individual countries. While all countries in Latin America have legislation in place relative to food, not all of them have a coordinated control system, and existing control systems can vary significantly from country to country. Many countries in Latin America have enacted modern legislation relative to food, however the region's efforts regarding consistency and effectiveness of food safety regulation continues to be a work in progress. The Latin American region is capable of both providing sufficient food for its population, and also being an important participant in the ever-expanding global agrifood trade. Latin American nations are dealing with the fact that, “in recent decades, developed country governments and multinational firms have been imposing an ever-growing array of food quality and safety standards on imported foodstuffs” (Coslovsky, 2014, 33). As a result, influenced by globalization and not wanting to lag behind, most Latin American countries are continually striving to harmonize their food safety regulatory initiatives. This article brings to light food safety regulations and policies and their development processes in Mexico, the Central American countries and South American countries.

6. Li, A., Cheng Er, J., Ching Khor, W., Hui Liu, M., Sin, V., Harn Chan, S., & Thu Aung, K. (2024). Integration of National Chemical Hazards Monitoring, Total Diet Study and Human Biomonitoring Programmes for Food Safety Exposure Assessment in Singapore. *Journal of Food Protection*, 100414.

Abstract: Food safety and food security can impact the quality of human life, and these two aspects are interrelated alongside many influencing external factors. Global stressors such as climate change, recent pandemic and geopolitical tensions have demonstrated tangible impacts on food security and safety. Food and food system innovation is a key strategy towards feeding the world in a more sustainable and climate-resilient manner. This paper highlights the use of a science-based risk assessment and management in Singapore's food safety system, specifically in the integration of exposure assessment approaches to support evidence-based food safety risk analysis and decision making. The use of complementary top-down and bottom-up exposure assessment approaches through the market monitoring programme, total diet study and human biomonitoring forms a comprehensive integrated exposure assessment strategy which can ultimately inform policy and measures in ensuring and securing a supply of safe food. The discussion on such application for chemical food safety in Singapore offers additional insights to the synergistic inter-relationships contributing to the exposure assessment associated with chemicals in food.

7. Lotter, J. T., Ierardi, A. M., & Nembhard, M. D. (2024). Overview of occupational safety and health regulations in the United States. In P. Wexler (Ed.), *Encyclopedia of Toxicology (Fourth Edition)* (pp. 203-210). Academic Press.

Abstract: The passage of the Occupational Safety and Health (OSH) Act of 1970 has been noted to be the single most significant event for protecting worker safety and health in the United States (U.S.). Among other achievements, the OSH Act established the Occupational Safety and Health Administration (OSHA), responsible for setting and enforcing standards, and providing training, outreach, education, and assistance. Lesser known to the general public, but arguably equally influential in terms of directing occupational safety and health conditions in the U.S., the OSH Act also created the National Institute for Occupational Safety and Health (NIOSH) as an independent institute to conduct research and provide recommendations to OSHA for setting regulations. The OSH Act was not created in a vacuum, but rather as a Federal response to a history of devastating workplace safety incidents throughout the U.S. and was based on existing State safety and health laws and adoption of existing consensus

standards. Throughout the more than five decades since the establishment of the OSH Act, efforts to improve working conditions in the U.S. have been met with legal, political, and financial challenges. Despite these barriers, through the efforts of activists, labor unions, occupational safety and health practitioners, and responsible employers, regulations governing workplace safety and health have made meaningful progress and continue to push society's expectations for employers to protect the safety and health of their employees.

8. Sharma, R. (2024). Comparative analysis of national nuclear safety regulations. *SSRN Electron. J.*

Abstract: Nuclear energy offers a powerful yet controversial electricity source. While it boasts low carbon emissions, safety concerns remain a significant public and policy priority. Robust national legal frameworks are crucial for ensuring the responsible and safe utilization of nuclear technology. This paper delves into a comparative analysis of national nuclear safety regulations from four countries with active nuclear programs: The United States (USA), France, India, and South Korea.

The research focuses on prominent regulatory bodies like the International Atomic Energy Agency (IAEA) and their role in establishing safety standards. It then compares and contrasts the regulatory frameworks of these four countries. The analysis examines key areas of regulation, including reactor design and licensing requirements, operational safety standards and procedures, emergency preparedness and response plans, and regulatory oversight and enforcement mechanisms.

Through a critical analysis of official documents and scholarly research, the paper identifies both similarities and significant differences in these countries' approaches to nuclear safety. It explores the potential causes for these variations, considering factors like historical experiences with nuclear power and the types of reactor technologies employed. The analysis further evaluates the effectiveness of each country's regulatory framework in achieving and maintaining a high level of nuclear safety.

The discussion section explores the potential benefits of harmonizing national safety regulations across countries. It acknowledges the challenges of achieving international consensus on nuclear safety standards but emphasizes the importance of ongoing collaboration and information sharing. The paper concludes by identifying areas where existing regulations could be improved based on best practices observed in the other countries studied. By examining the diverse approaches to nuclear safety regulations, this paper contributes to a

deeper understanding of the global landscape and paves the way for potential areas of convergence and improvement to ensure the safe and responsible use of nuclear energy.

9. Vitrano, G., & Micheli, G. J. L. (2024). National occupational safety and health systems: Exploring the underlying networks for future sustainable development. *Sustainable Futures*, *8*, 100382.

Abstract: Any intervention, initiative, or programme – whether implemented at the local or national level – builds upon existing infrastructure, which, if properly managed, enables sustainable development. Within this perspective, this study examines national Occupational Safety and Health (OSH) systems, specifically a set of European countries, by studying their dynamics through cross-national analyses and investigating their similarities and differences, fostering OSH improvement through new national strategies and possible collaboration between national entities. A secondary data analysis is conducted based on the OSHwiki database of the European Agency for Safety and Health at Work (EU-OSHA), which has a dedicated section on European national OSH systems. This database makes different countries easily comparable – under one single language and the same degree of granularity – which is not trivial if considering the other available primary sources. For a consistent sample, with a controlled heterogeneity, this study includes eleven European countries. An iterative inductive process of data comparison on national OSH systems is used to establish a suitable framework for data analysis. As a result, a range of fundamental functions and recurring bodies, covering – to different extents – the previously identified functions, constitute the framework, which are the most transversal functions for the selected countries. These findings provide valuable insights into how these functions are carried out differently across countries, detecting potential shareable best practices and improvement directions for the future sustainability of national OSH systems.

10. Witherspoon, B., & Donse, E. (2024). Food Safety—Regulations and Policy in Australia and New Zealand. In G. W. Smithers (Ed.), *Encyclopedia of Food Safety (Second Edition)* (pp. 533-546). Academic Press.

Abstract: The Australia New Zealand food regulatory system provides a framework for both countries to collaborate on the development and implementation of food standards, with the overarching priority of protecting public health and safety. This article provides an overview of the purpose of the system, its governance arrangements and its functions of policy

development, standards development, implementation and enforcement, and incident response. Sections are also provided on engagement and partnerships, and how the system is being modernized to ensure it remains fit-for-purpose into the future.

11. Zivkovic, L. (2024, 2024-01-01). National Spatial Data Infrastructure (NSDI) for Resilient Territorial Development: Building a National Disaster Risk Register (DRR) for Serbia. COMPUTATIONAL SCIENCE AND ITS APPLICATIONS-ICCSA 2024 WORKSHOPS, PT III, GEWERBESTRASSE 11, CHAM, CH-6330, SWITZERLAND.

Abstract: In recent decades the number and intensity of the natural and man-made hazards have been persistently increasing, continuing to undermine the efforts invested in achievement of the sustainable development. In order to prevent the new risk disasters, reduce the existing ones, and enhance territorial resilience by decreasing the exposure and vulnerability of the people, communities, economies and countries, UN has adopted in 2015 an action-oriented Sendai Framework for Disaster Risk Reduction for the effective disaster risk management, from global to local level. Due to then triggered needs for the various risk maps and, generally, for geospatial information for the Sendai Framework implementation, UN-GGIM has introduced in 2018 the Strategic Framework on Geospatial Information and Services for Disasters to lead the countries worldwide in production and distribution of the quality geospatial data and services, which are required for the timely decision-making and efficient coordination of operations in all phases of disaster risk management cycle. Among the other leads, one of the main guiding principles for implementing this strategic framework in any country directs to the National Spatial Data Infrastructure (NSDI), as a reliable platform for building a common database and infrastructure for quality and interoperable risk-related geospatial data and services. Since NSDI is usually administered by the national mapping agencies, the Republic Geodetic Authority has got a critical role in establishment of the national Disaster Risk Register and related infrastructure in Serbia for all national stakeholders' data gathering and analysis towards the common understanding of the disaster events. Despite there are more functionalities and elements yet to be developed in future, the current Disaster Risk Register and its infrastructure already confirm advantages of the multi-hazard and multisectoral approach to the disaster risk reduction and territorial resilience development.

12. Ayoub, N., Issa, S., Nassif, H., & Asmar, M. (2023). Barriers to the implementation of occupational health and safety regulations in Lebanon [Article]. *ARCHIVES OF ENVIRONMENTAL & OCCUPATIONAL HEALTH*, *78*(7-8), 389-399.

Abstract: This study aims to explore the barriers that prevent the implementation of occupational health and safety regulations in Lebanon. A qualitative approach was adopted including a document analysis of the available legal documents pertaining to occupational health and safety at the national level and ten in-depth interviews with professionals in the field of occupational health and safety in Lebanon. Our findings show that the implementation of the occupational health and safety regulations in Lebanon is hindered by several barriers including the lack of a holistic legal framework, lack of promotion of a health and safety culture at work, insufficient number of labor inspectors, insufficient training for labor inspectors, lack of necessary tools and equipment, lack of an adequate documentation system, hierarchy within the Ministry of Labor, weak compliance, and the influence of the informal sector.

13. Bondebjerg, A., Filges, T., Pejtersen, J. H., Kildemoes, M. W., Burr, H., Hasle, P.,…Bengtsen, E. (2023). Occupational health and safety regulatory interventions to improve the work environment: An evidence and gap map of effectiveness studies. *Campbell Systematic Reviews*, *19*(4), e1371.

Abstract: Background: Unsafe and unhealthy working conditions lead to injuries and financial losses across the globe, resulting in a need for research into effective work environment interventions. Objectives: The objective of this evidence and gap map (EGM) is to provide an overview of existing systematic reviews and primary studies examining the effects of occupational health and safety regulatory interventions. Search Methods: Relevant studies are identified through searches in published and unpublished literature performed up to January 2023. Selection Criteria: The population for this EGM is workers above the age of 15 and their workplaces within the OECD. We include randomised controlled trials, non-randomised studies with a comparison of two or more groups of participants, and systematic reviews of effects. Data Collection and Analysis: The map has been populated based on information about interventions and outcomes, study design, OECD country, and publication status. We have performed critical appraisal of included systematic reviews using an adjusted version of the AMSTAR-2 tool. Main Results: The included studies for this report consist of six systematic reviews, 28 primary effect studies, and three on-going studies. The interactive map shows that

the largest cluster of studies is located in the inspection activity domain, while the sickness absence outcome domain and the intervention categories for training initiatives and formulation of regulatory standards are only scarcely populated. Additionally, the AMSTAR-appraisal suggests a lack of rigorous systematic reviews and meta-analyses. Authors' Conclusions: More research in the form of primary studies and rigorous systematic reviews is needed to provide stakeholders with better guidance as to what constitutes the most efficient regulatory approaches to improve the work environment.

14. Guo, Y., Lundebye, A.-K., Li, N., Ergon, Å., Pang, S., Jiang, Y.,…Aakre, I. (2023). Comparative assessment of food safety regulations and standards for arsenic, cadmium, lead, mercury and iodine in macroalgae used as food and feed in China and Europe. *Trends in Food Science & Technology*, *141*, 104204.

Abstract: Background: Seaweed, or macroalgae has traditionally been part of Asian cuisine for decades and is also becoming increasingly popular as a food source in Europe and other Western countries. However, seaweed can accumulate elements from the environment and consequently may be a source of exposure to toxic elements, or potentially harmful levels of micronutrients. Food safety issues related to the use of seaweed as food and animal feed are very important given the increased use of such products. Scope and approach: Current standards, regulations and recommendations regarding heavy metals (cadmium, lead and mercury), arsenic and iodine in seaweed food and feed products in China and Europe are included in this review. Furthermore, the levels of these elements in different seaweed products, dietary exposure, and risk management measures for seaweed products are also discussed. Key findings and conclusions: The chemical hazards of particular concern in seaweeds are iodine, inorganic arsenic and cadmium depending on seaweed species, consumption and processing or preparation methods. In the absence of harmonized international standards or guidelines that specifically address food safety of seaweed production, processing and utilization, there are considerable differences in the regulations and standards concerning inorganic contaminants and iodine among different countries. This comprehensive review identifies knowledge gaps and provides a scientific basis for further work regarding developing unified food safety legislation, standards or guidelines related to seaweed products.

15. Kozak, Z., Shapoval, L., & Cherevko, P. (2023). Legal regulation of occupational safety and health [Article]. *CUESTIONES POLITICAS*, *41*(78), 309-325.

Abstract: The aim of the article was to discuss the issues of legal regulation of health and safety in Ukraine. The aim of the research was achieved with the help of general and special methods of scientific knowledge. It was concluded that in the conditions of martial law, the legislative approach to the adoption of new laws, amendments and additions to existing laws should be carried out in accordance with international legal standards, concerning the provision of adequate guarantees for persons exercising the right to work. The analysis of the content of normative legal acts and draft laws led to the development of relevant proposals in connection with the fact that the concept of the profile of the law should reflect a holistic approach to occupational safety and health, with emphasis on measures to prevent occupational accidents; improvement of working conditions (increasing the employer's liability for violations of legislation in the specified area, imposing on employees the duty to take care of their own safety and the health of others, etc.).

16. Niven, C., Vuong, K. A., Nottage, L., Harrison, J. E., Möller, H., Catchpoole, J.,…Vallmuur, K. (2023). Navigating child product safety: Perspectives from experts on international challenges and priorities in regulation and research. *Australian and New Zealand Journal of Public Health*, *47*(6), 100103.

Abstract: Objective: To elicit and summarise collective expert opinion on contemporary child product safety risks, challenges and priorities. Methods: An online survey targeted international experts from a cross-section of product safety fields. Results: Fifty-five experts participated, representing 1,137 years of product safety experience, from a broad range of fields including industry risk management, product assessment and testing, policy and regulation, research, paediatric medicine, advocacy and product liability. Participants identified the leading product safety hazards across all age brackets as falls, drowning and chemical hazards, with variance in specific age brackets, particularly the threat to breathing hazards for infants. The leading products of concern to experts were electrical connection/distribution products, primarily button batteries and lithium-ion batteries, infant furnishing products and household furniture. Product safety priorities and challenges were identified under five themes: regulatory, surveillance, industry, consumer and product-specific. Conclusions: The gains in knowledge, insight and

understanding from experts on contemporary child product safety risks and issues should inform policy and future research. Implications for Public Health: There are significant consequences of unsafe consumer products on population health, and the results are timely as we face new product safety issues emerging from e-commerce, the digital transition and innovative product technologies.

17. Vigil, A., & Booker, J. (2023). Building national disaster resilience: assessment of ENSO-driven disasters in Peru [Article]. *INTERNATIONAL JOURNAL OF DISASTER RESILIENCE IN THE BUILT ENVIRONMENT*, *14*(4), 423-433.

Abstract: Purpose: Societies go through complex challenges in the face of the vertiginous increase in disasters, mostly produced by the effects of extreme events. The lack of capacity to deal with disasters is evident, especially in developing countries, as in the case of Peru. Under such a premise, this paper contributes to strengthening the country's capacities, through an evaluation of national disaster resilience to the El Nino-Southern Oscillation-driven hazards caused by the El Nino disaster event between 2016 and 2017 on the Peruvian coast. Design/methodology/approach: By reviewing the literature, various hazards were identified, such as heavy rainfalls and cascading hazards, such as floods and landslides. Even though risk assessments were carried out, 169 people died and essential infrastructure was severely impacted and lost. Through a 12-criteria resilience assessment framework sub-divided into sustainable development and disaster risk reduction, a diagnosis of national disaster resilience was carried out, along with a disaster risk management evaluation. Under such assessments, strategic recommendations were proposed to enhance the resilience of the country. Findings: The lack of resilience of the country is reflected in the evaluated criteria, the most negative being the built environment due to infrastructure system's vulnerability to hazards, and the lack of social development, despite national economic growth in Peru. Originality/value: The research is extremely valuable because it bridges the knowledge gap on disaster resilience in Peru. In addition, the methodology, as well as the multi-topic assessment framework, can be used for other analyses, which are key to building greater capacity in nations around the globe.

18. Zinsstag, J., Kaiser-Grolimund, A., Heitz-Tokpa, K., Sreedharan, R., Lubroth, J., Caya, F.,…de la Rocque, S. (2023). Advancing One human-animal-environment Health for global health security: what does the evidence say? [Article]. *LANCET*, *401*(10376), 591-604.

Abstract: In this Series paper, we review the contributions of One Health approaches (ie, at the human–animal–environment interface) to improve global health security across a range of health hazards and we summarise contemporary evidence of incremental benefits of a One Health approach. We assessed how One Health approaches were reported to the Food and Agricultural Organization of the UN, the World Organisation for Animal Health (WOAH, formerly OIE), and WHO, within the monitoring and assessment frameworks, including WHO International Health Regulations (2005) and WOAH Performance of Veterinary Services. We reviewed One Health theoretical foundations, methods, and case studies. Examples from joint health services and infrastructure, surveillance–response systems, surveillance of antimicrobial resistance, food safety and security, environmental hazards, water and sanitation, and zoonoses control clearly show incremental benefits of One Health approaches. One Health approaches appear to be most effective and sustainable in the prevention, preparedness, and early detection and investigation of evolving risks and hazards; the evidence base for their application is strongest in the control of endemic and neglected tropical diseases. For benefits to be maximised and extended, improved One Health operationalisation is needed by strengthening multisectoral coordination mechanisms at national, regional, and global levels.

19. Housni, H., Bendahhou, K., Tahiri, M., & Jouti, N. (2022). Compliance Assessment of Scientific Research Laboratories with Legal Requirements Regarding the Integrated Management of Chemicals and Hazardous Waste [Article]. *CHEMISTRY AFRICA-A JOURNAL OF THE TUNISIAN CHEMICAL SOCIETY*, *5*(4), 1167-1189.

Abstract: The exponential use of chemicals in scientific research generates considerable quantities of various chemical wastes (Chemical waste is generated by harmful chemicals. This type of waste may or may not be hazardous. A hazardous chemical waste may be liquid, solid or gaseous and have hazardous characteristics such as toxicity, flammability, corrosiveness, and reactivity (Learning Program BYJU'S, Source and types of waste - types of waste, sources of waste and recycling of waste, 2022. https://byjus.com/chemistry/waste/ (accessed May 16, 2022)) in the form of liquid effluents,

solid wastes and gaseous discharges forms. These chemical wastes have adverse effects on human health and are potential sources of pollution of air, water, and soil. Therefore, these products must certainly be managed and handled in the most appropriate way and in accordance with the national and international regulations. Several techniques and processes have been developed and applied; however, the legal and regulatory framework remains insufficient for the proper management of chemical products. In this article, we will present the main regulations, laws and mandatory standards applicable in Morocco and which govern the use of chemicals and the management of inherent waste. We will proceed to an analysis and the development of recommendations, which can serve as a guide for chemicals handlers. This work will also help policy makers, Health, Safety and Environment (HSE) experts in Morocco and generally in Africa to develop appropriate strategies in order to improve working conditions in a healthy environment. This article is based on a qualitative study concerning the degree of knowledge and application of regulatory requirements by chemical handlers in scientific research laboratories in Morocco. The results of the study revealed major gaps and deficiencies in both knowledge and enforcement of the regulations related to chemicals and hazardous wastes (Hazardous waste is a waste with properties that make it dangerous or capable of having a harmful effect on human health or the environment (United States Environmental Protection Agency: Learn the basics of hazardous waste (US EPA, 2021. https://www.epa.gov/hw/learn-basics-hazardous-waste (accessed May 16, 2022)).

20. Kuchheuser, P., & Birringer, M. (2022). Pesticide residues in food in the European Union: Analysis of notifications in the European Rapid Alert System for Food and Feed from 2002 to 2020 [Article]. *FOOD CONTROL*, *133*, Article 108575.

Abstract: The European Union (EU) has one of the strictest pesticide policies. As one component of the regulatory framework, Regulation (EC) No 396/2005 sets harmonised maximum residue levels for pesticide residues in food and feed in the European Union to ensure high levels of consumer protection. Under certain circumstances, a notification in the Rapid Alert System for Food and Feed (RASFF) is released for pesticide residues exceeding a specific or a default maximum limit. Despite being a major food hazard in the European Union, no detailed analysis of notifications on pesticide residues over a longer period is available to date.

Thus, an analysis of notifications on pesticide residues in food submitted in the RASFF between 2002 and 2020 was conducted. A total of 5211 notifications, including 15.8% alert notifications, 36.5% information notifications and 47.8% border rejections, were analysed with a focus on concerned products, causative pesticides and involved countries of origin. The notifications often concerned vegetables (53.8%) and fruits, tree nuts (24.2%) and reported a total of 7413 residues involving 251 pesticides in products mainly originating from third countries (82.4%), with multiple residues in 22.0% of notifications. Overall, the notifications on pesticide residues in food appear to be linked to the regulatory framework and selected risk management measures. While import controls and border rejections appear to be an effective means of protecting European consumers from non-compliant and potentially harmful products from third countries, the problem of unauthorised pesticide residues in products from EU/EFTA countries and of products not available at the time of publication in the RASFF might require further measures for food safety in the European single market.

21. Yildirim, N., Gultekin, D., Tilkici, D., & Ay, D. (2022). An Institutional System Proposal for Advanced Occupational Safety and Labor Standards in the Turkish Construction Industry [Article]. *INTERNATIONAL JOURNAL OF ENVIRONMENTAL RESEARCH AND PUBLIC HEALTH*, *19*(22), Article 15113.

Abstract: The Turkish construction industry is problematic with its inferior occupational safety practices and labor standards. This paper explores the current institutional system's problems and designs a national institutional system to improve labor conditions in the Turkish construction industry. The study applies cause-and-effect analysis, stakeholder analysis, and information flow analysis based on the thematic literature and regulation reviews and the data collected from expert interviews. Findings revealed that the industry represents a drastically problematic context with high rates of occupational accidents, job insecurity, and excessive working time, and the inspection and enforcement system is still immature, calling for additional institutional arrangements to establish a collaborative and sustainable environment. There is a need for a holistic, multi-dimensional, and systematic perspective to develop coordination and inspection mechanisms in the sector. The paper proposes an institution and scorecard design by applying a quality function deployment framework matching needs and systemic functions that can

overcome the existing deficiency in labor conditions. The paper contributes to filling the gap in the literature on the multi-dimensional, systematic institutional perspective to develop coordination and inspection mechanisms in the construction industry and proposes an institutional system example that could be adapted to other national contexts.

22. Bernard, B. (2021). Regulating nuclear safety through safety culture. *Journal of Safety Science and Resilience*, *2*(3), 172-178.

Abstract: The primary aim of this paper is to demonstrate that safety culture can be a relevant additional concept for regulating at-risk installations. In that purpose, we developed a three-level model aiming at guiding a safety culture assessment. In that framework, "coherence" (*i.e.* the level of alignment between principles and practices), "cooperation" (*i.e.* the mutual understanding between sub-cultures) and "consistency" (*i.e.* the capacity to change and to improve) have been considered as core issues for a regulatory body assessment of safety culture. These important dimensions are illustrated through two study cases related to two safety culture assessments of nuclear installations.

23. Chen, X., Lyu, H., Zhang, J., Bai, L., & Wang, J. (2021). National Food Safety Standards Related to Microbiological Contaminants in China: Recent Progress and Challenges [Review]. *FOODBORNE PATHOGENS AND DISEASE*, *18*(8), 528-537.

Abstract: Contamination of food by pathogenic microorganisms is considered to be the most important food safety issue in China. As important options of risk management, the National Food Safety Standards (NFSSs), including the criteria related to microbial pathogens, have been continuously revised over the past 10 years as required by China's Food Safety Law. This article presents an overview of current structure and roles of China's NFSSs related to microbiological contaminants throughout the whole food chain including microbiological criteria, codes of practice, and laboratory analytical methods. In addition, discussed are such challenges as the new microbiological requirements as a result of changes in eating habits and new knowledge discovered for foodborne diseases, coordination of risk surveillance, microbiological risk assessment (MRA), and development of standards, as well as the evolution of analytical technology. Future revision of NFSSs related to microbiological contaminants shall rely more on risk-based evidences from MRA and focus more on process control than mere inspections of end-product.

24. Jakob, M., Santa, D., Holte, K., Sikkeland, I., Hilt, B., & Lundqvist, P. (2021). Occupational health and safety in agriculture - a brief report on organization, legislation and support in selected European countries [Article]. *ANNALS OF AGRICULTURAL AND ENVIRONMENTAL MEDICINE*, *28*(3), 452-457.

Abstract: Introduction and objective. Agriculture and forestry are among the most dangerous professions in Europe, with a high level of accidents affecting the sustainability and viability of the sector. International conventions, EU directives and national legislation build the fundamental basis for prevention. The aim of the study is to describe and categorize national mechanisms of occupational safety and health (OSH) for agricultural workers in Europe, to assess the extent of implementing safety regulation, the body in charge, and to give examples of health and safety initiatives. Materials and method. Results of a questionnaire-survey on basic safety regulations on farms sent by e-mail to the representatives of 30 participating European countries in the context of the Sacurima COST action network (CA 16123) are presented. Due to the complexity, only selected countries are described in this study highlighting the regulative bodies, occupational health services or specific training offers, as well as the complexity of the mechanisms. Results. One of the most serious issues and deficits of EU OSH regulation is the exclusion of self-employed farmers who compose nearly 90% of the farming population. This leads to serious under-reporting of accidents, and because one of the most common measures for the performance of health and safety initiatives are the injury and ill health statistics, better registration systems are urgently needed in almost all countries as a basis for preventive efforts. Conclusions. The results of the study provide a basis for raising awareness about the current OSH systems in Europe, and the importance of developing sector specific OSH strategies.The proposed activities should assist in tackling high accident rates and poor occupational health for self-employed farmers.

25. Jonai, H., Ono, M., Hirachi, K., Tanaka, M., Sohara, H., & Umemura, Y. (2021). Transition of chemical management in Japan-Shift to self-regulation and measures for small businesses [Review]. *INDUSTRIAL HEALTH*, *59*(5), 298-307.

Abstract: Increased variety and use of chemicals and the number of chemical disasters have changed chemical management. Europe and the United States have adopted self-regulation in chemical management; furthermore, countries worldwide must comply with the relevant United Nations recommendations and international standards for chemical management. Japan has experienced numerous pollution incidents and

occupational disasters, resulting in the development of laws and regulations on chemical management; however, these policies are inconsistent with international trends. In particular, the shift from a compliance approach to self-regulation and measures for small businesses remain as challenges. This paper discusses the current situation and issues in chemical management in Japan, focusing on international trends.

26. Nævestad, T.-O., Storesund Hesjevoll, I., & Elvik, R. (2021). How can regulatory authorities improve safety in organizations by influencing safety culture? A conceptual model of the relationships and a discussion of implications. *Accident Analysis & Prevention*, *159*, 106228.

Abstract: Regulators have increasingly started to focus on safety culture. The causal link between regulatory initiatives to improve safety culture and a potential decline in accidents may, however, appear like a "black box", involving social processes that seem hard to foresee and influence. We need a better conceptual understanding of this. The aims of our study are to: 1) Map studies of regulatory efforts to influence safety culture in companies, 2) Use the identified studies to develop a conceptual model of the analytical relationships between regulatory initiatives to improve safety culture and accidents in these studies, including the factors influencing these analytical relationships and 3) discuss practical implications. The review is reported according to PRISMA-guidelines, and focuses on professional transport (aviation, sea, rail, road) and the Norwegian petroleum sector. Our review indicates at least six analytical relationships, mediating between regulatory attempts to influence organizational safety culture and accidents. These are between: 1) Rules and regulators, 2) Regulators and companies, 3) Managers and employees in the companies, 4) Organizational members' shared ways of thinking and acting, which are the two key elements of safety culture, 5) Safety culture and safety behaviour, and between 6) Safety behaviour and accidents. Regulatory attempts to influence safety culture may fail or succeed at each level, through factors involved in the different relationships.

27. Stankova, G., Tzacheva, N., & Hristova, L. (2021). OCCUPATIONAL HEALTH AND SAFETY TRAINING - A SNAPSHOT OF EMPLOYEES' LEVEL OF KNOWLEDGE [Article]. *JOURNAL OF IMAB*, *27*(3), 3905-3910.

Abstract: Introduction: The EU strategy "Europe 2020" sets up the instruments and targets for better educational levels and training as social dialogue, awareness-levels raising, law enforcement in the field of EU and national legislation. There are efficient resource interactions with other policy areas such as public health and education. EU funds, such as the European Social Fund (ESF) and the European Program for Employment and Social Innovation (EaSI), will support the application of rules relating to health and safety at work. Purpose of this study is analysis and evaluation of the employees, knowledge about health and safety at the workplace and how effective were the conducted OHS training. Tasks: Defining the level of awareness of workers for possibilities of health damage at work. Measuring the level of OSH training support for the implementation of preventive approaches to health protection in the workflow. Studying the preliminary psychological attitude towards OHS training both for employers and employees. Method: Survey through a questionnaire held among workers and employees in several branches of the private sector. Results: The study provides summarized information on several subjects: workers' knowledge about dangerous hazards in their own working environment; adherence of the safety at work rules; proper use of personal protective equipment and specific work protective equipment; types of training, outreach and education the employees have undergone; levels of basic knowledge of the law and regulations related to OHS; most common methods of OHS training and education and their interpretation for safety and health at work. Conclusions: Most workers are well aware of the health risks at their workplaces. All of them have passed at least one educational course related to OHS. More than 2/3 of the respondents have participated in several types of training. Workers have a basic knowledge of Bulgarian employment law, but it's incomplete and can be extended to a better degree. The most common reason for participating in Health and Safety at work training is obligatory both by law or higher management of the company. There is a high need to supplement the OHS legislation.

28. Blanco, A., & Fernández, E. (2020). Integrated management of quality, environment, safety and health in work places. Experiences in a biotech industry center [Article]. *REVISTA CUBANA DE INGENIERIA*, *11*(3), 78-89.

Abstract: This work shows a model for the integration of management systems in a center of the biotechnology industry. In order to carry out this study, the scope was to designing a model for integrated management of quality, environment, occupational health and safety based on the requirements established in the current regulations. In this respect, methods and techniques such as document analysis, observation, surveys, teamwork, checklists, SWOT matrix and the PHVA methodology were applied. In the initial stage of the study, it was found that the organization managed quality, environment, occupational health and safety independently, which negatively affected the organization's performance. This demonstrated the need to design the integrated management model. Its application in the case study increased the performance of the organization by avoiding duplication of documented information, managing risks in an integrated way and continuous improvement of processes. Among the main results obtained, the following are highlighted: the planning of the Integrated Management System, the design of the integrated processes and the preparation of the documentation that supports the management system.

29. Consunji, R., Mehmood, A., Hirani, N., El-Menyar, A., Abeid, A., Hyder, A.,…Peralta, R. (2020). Occupational Safety and Work-Related Injury Control Efforts in Qatar: Lessons Learned from a Rapidly Developing Economy [Article]. *INTERNATIONAL JOURNAL OF ENVIRONMENTAL RESEARCH AND PUBLIC HEALTH*, *17*(18), Article 6906.

Abstract: Work-related injury (WRI) control is an integral part of occupational safety. In rapidly developing Gulf countries such as Qatar with a predominantly expatriate workforce, WRI control is a complex issue often seen in conjunction with the implementation of labour laws and labour rights. We aimed to implement a public health approach to facilitate efforts to achieve long-term WRI control in Qatar. A range of initiatives helped to gain visibility and momentum for this important public health problem, including identifying and engaging with key stakeholders, workers' surveys, steps to establish a unified injury database, and the implementation of a WRI identification tool in the electronic medical records. A contemporaneous improved enforcement of existent occupational safety regulations through heightened worksite

inspections and efforts to improve living conditions for migrant workers also took place. WRIs are not only a Qatar-specific problem; the same issues are faced by neighbouring Gulf countries and other rapidly developing economies with large expatriate worker populations. These strategies are also useful starting points for similar countries interested in nurturing a safe, healthy and productive workforce.

30. Mentes Gürler, A., Sanal, S., & Aslim, G. (2020). Assessment of Regulations on Occupational Health and Safety in Agriculture in Turkey from the Point of Livestock Raising and Veterinary Medicine [Article]. *KAFKAS UNIVERSITESI VETERINER FAKULTESI DERGISI*, *26*(2), 187-192.

Abstract: Agriculture is the second largest source of employment following the service sector in the whole world, and it is among the most dangerous sectors concerning diseases and premature death. Majority of the families working in the agriculture sector also deal with livestock raising (cattle, sheep and goat farming) or they live in the areas with a high possibility of contact with animals. There are various problems since the occupational health and safety services do not cover the ones working on their own behalf and due to problems in the delivery of health services appropriate for the rural areas. Veterinary physicians, who play an important role in animal health, public health, and environment, have also important tasks in the implementations of occupational health and safety in livestock raising in agricultu re sector. The material of this study was comprised of national and international regulations concerning occupational health and safety. The implementations of regulations of the International Labor Organization (110) were evaluated in terms of livestock raising and veterinary medicine. As the conclusion, in Turkey, it was determined that the regulations about occupational health and safety in agriculture did not involve the veterinary physicians concerning both safety practice and job safety; it can be suggested that it should be updated.

31. Ranasinghe, U., Jefferies, M., Davis, P., & Pillay, M. (2020). Resilience Engineering Indicators and Safety Management: A Systematic Review. *Safety and Health at Work*, *11*(2), 127-135.

Abstract: A safe work environment is crucial in high-risk industries, such as construction refurbishment. Safety incidents caused by uncertainty and unexpected events in construction

refurbishment systems are difficult to control using conventional safety management techniques. Resilience engineering (RE) is proposed as an alternative to traditional safety management approaches. It presents a successful safety management methodology designed to deal with uncertainty in high-risk work environments. Despite the fact that RE resides in the safety domain, there is no common set of RE indicators to measure and assess resilient in the work environment. The main aim of this research is to explore RE indicators that have been identified as important in developing and assessing the resilient work environment in high-risk industries, particularly in construction refurbishment. Indicators have been attained through a systematic literature review of research and scholarly articles published between the years 2004 and 2019. The literature review explored RE indicators in various industries. Descriptive analysis and co eoccurrence-based network visualization were used for data analysis. The findings revealed 28 RE indicators in 11 different high-risk industries. The results show that the four commonly used indicators were: top-management commitment, awareness, learning, and flexibility, all of which have a strong relationship with RE. The findings of this study are useful for stakeholders when making decisions concerning the most important RE indicators in the context of their research or practice as this would avoid the ambiguity and disparity in the identification of RE indicators. (C) 2020 Occupational Safety and Health Research Institute, Published by Elsevier Korea LLC.

32. Atusingwize, E., Musinguzi, G., Ndejjo, R., Buregyeya, E., Kayongo, B., Mubeezi, R.,…Ssempebwa, J. (2019). Occupational safety and health regulations and implementation challenges in Uganda [Article]. *ARCHIVES OF ENVIRONMENTAL & OCCUPATIONAL HEALTH*, *74*(1-2), 58-65.

Abstract: The burden of occupational diseases and injuries is high in developing countries due to several challenges including poor regulatory frameworks. To explore the status of occupational safety and health (OSH) policies and related implementation challenges in Uganda, we reviewed OSH regulations and conducted key informant interviews with stakeholders. We found that the existing OSH laws were largely outdated compared to the current needs of workplaces. Challenges affecting implementation are related to: gaps in the legal framework, low public awareness about OSH, poor planning, and limited human capacity, transparency, and accountability. Measures to address these gaps including training, upgrading

OSH laws and policies, and prioritization are warranted to improve the status of OSH in Uganda.

33. Cavalli, L., Jeebhay, M., Marques, F., Mitchell, R., Neis, B., Ngajilo, D., & Watterson, A. (2019). Scoping Global Aquaculture Occupational Safety and Health [Article]. *JOURNAL OF AGROMEDICINE*, *24*(4), 391-404.

Abstract: Objectives: In 2017 the Food and Agriculture Organization (FAO) Committee on Fisheries committed to prioritize occupational safety and health issues in aquaculture (AOSH). An international team was established to synthesize OSH knowledge concerning more than 19 million, often vulnerable, aquaculture workers found globally. Methods: The study was conducted as a desktop scoping exercise using both peer-reviewed and gray literature and the knowledge and expertize of an international panel. Collated information used a standard proforma. Panel members developed draft national and regional AOSH profiles outlining occupational hazards contributing to occupational injuries, diseases, and known solutions. These were work-shopped and refined after gathering additional information and used to compile the first global scoping review report on AOSH. Results: Synthesized results revealed multiple hazards, significant global knowledge gaps and some successful and unsuccessful global, national and industry-specific AOSH policies, practices and standards along the primary supply chain, in marine and freshwater contexts. Some constructive initiatives by the International Labor Organization (ILO) and FAO, industry, labor and civil society groups in a range of employment and geographical settings and across diverse populations of workers were identified. Conclusion: Global commitment to AOSH should be given the same focus as product quality, biosecurity, food safety and environmental sustainability in the sector. This needs development and implementation of integrated AOSH actions appropriate for diverse settings especially in low and middle-income countries encompassing greater uptake of international codes, better risk assessment and OSH management, adoption of technological innovations, effective OSH regulation and enforcement, adequate resources, training and information.

34. Nævestad, T.-O., Phillips, R. O., Størkersen, K. V., Laiou, A., & Yannis, G. (2019). Safety culture in maritime transport in Norway and Greece: Exploring national, sectorial and organizational influences on unsafe behaviours and work accidents. *Marine Policy*, *99*, 1-13.

Abstract: The study compares crew members on Norwegian cargo vessels (N = 93) and passenger vessels (N = 76) with crew members on Greek cargo vessels (N = 99) and Greek passenger vessels (N = 99). The aims are to: 1) Examine the influence of national safety culture, sector safety focus and organizational safety culture on safety behaviours, compared with other explanatory variables (e.g. age, position, vessel type, working conditions) and to 2) Examine the influence of safety behaviours and other factors on occupational injuries. The paper focuses on the following unsafe behaviours: 1) Risk acceptance/violations, 2) Working under the influence of alcohol, or while being hungover and 3) Non-intervention/non-reporting. Organizational factors like demanding working conditions and organizational safety culture are the most important predictors of Risk acceptance/violations and Non-intervention/non-reporting. National safety culture is the most important predictor of respondents' tendency to work under the influence of alcohol/hungover. Respondents' occupational injuries are influenced by Risk acceptance/violations, nationality and age. The study indicates that safety culture at different analytical levels, influence different types of unsafe behaviours, which in turn influence the risk of work injuries. Thus, it is suggested that it is important to study safety culture at different analytical levels (i.e. the national, sectorial and organizational), to fully understand the influence of culture on safety in transport.

35. Ruiz-Frutos, C., Pinos-Mora, P., Ortega-Moreno, M., & Gómez-Salgado, J. (2019). Do companies that claim to be socially responsible adequately manage occupational safety and health? [Article]. *SAFETY SCIENCE*, *114*, 114-121.

Abstract: Corporate Social Responsibility (CSR) is an increasing demand in companies around the world. We have assessed the degree of CSR in 112 Ecuadorians companies (671 participants), of which 58.9% were multinational, from all sectors and geographical country areas. This was done with the objective of knowing the degree of implementation of occupational safety and health management, and whether there is a correlation between these values and those of CSR. A validated questionnaire was used for the institutional and legitimacy part, the Global Reporting Initiative (GRI) for the social part, and mandatory audits on occupational health and safety management. An indicator was also added with perceived

priorities of social aspects of CSR for the studied population obtained through DELPHI methodology. More than 90% of the studied companies have quality, occupational health and safety, and CSR management systems. 51% of the companies claim to have an adequate system, while only 6.3% of them exceeded the minimum threshold required by Ecuadorian regulations. The women in boards of directors are less than 1% and there are differences between multinational and national companies, as well as in the trading activity of organizations in the institutional context, in legitimacy, and in social aspects. We conclude that the assessment of social aspects with the Global Reporting Initiative seems to be overestimated when compared with the occupational health and safety management system audits or with an indicator created on perceived priorities of CSR social aspects.

36. Lin, L. (2018). Integrating a national risk assessment into a disaster risk management system: Process and practice [Article]. *INTERNATIONAL JOURNAL OF DISASTER RISK REDUCTION*, *27*, 625-631.

Abstract: The national risk assessment (NRA) has recently become a very important component in a country's disaster risk management (DRM) system. The NRA aims to identify threats and hazards that could affect the entire country, and assess their potential likelihood and impacts from a national perspective. Compared to other DRM activities, NRA work is comparatively new, and is often a response to an external demand. For instance, in the European Union (EU), most member states initiated their NRA process in response to a EU directive. This article investigates how the requirement to conduct a NRA has influenced an existing DRM system, taking the case of Sweden as a study case. Specifically, it examines how the NRA process has been integrated into the multistakeholder, multi-level, bottom-up Swedish DRM system. Empirical data were collected through 21 semi-structured interviews with representatives from 13 national authorities, supplemented by Swedish and EU documentation. The results were analyzed following the ISO 31000 risk assessment process. The findings provide an indication of how NRA work has been integrated into ongoing DRM activities, and the level of integration. The results also indicate the extent of stakeholder involvement in the NRA process, the quality of DRM information communication among stakeholders, how the NRA has been implemented in the Swedish context, and the potential to expand the NRA worldwide.

37. Ma, Y., & Zhao, Q. (2018). Decision-making in safety efforts: Role of the government in reducing the probability of workplace accidents in China [Article]. *SAFETY SCIENCE*, *104*, 81-90.

Abstract: A sequential game model is built to analyze the interaction between the government's effort in safety regulation and the company's safety effort based on the case in China. An equilibrium solution for the game model is given, and a theoretical analysis concerning the impact of the governments' regulation on the solution is illustrated. The results show that the probability of workplace accidents can be reduced by increasing unit penalty cost under a given condition. The government should divide workplace accidents into two categories based on the magnitude of the accident: small accidents and large accidents. For accidents classified as small, the larger the magnitude of the accident is, the smaller is the unit penalty cost needed to reduce the accident's probability. For accidents classified as large, a same unit penalty parameter can be set, which helps to simplify accident management. In addition, the government can reduce the probability of workplace accidents by changing the taxation percentage according to the inflexion point of the relationship between the company's safety effort and the taxation percentage. The findings of this paper provide some useful insights for Chinese governments on reducing accident probability by resetting their regulation parameters.

38. Zhang, J., Mei, Q., Liu, S., & Wang, Q. (2018). Study on the Influence of Government Intervention on the Occupational Health and Safety (OHS) Services of Small- and Medium-Sized Enterprises (SMEs) [Article]. *BIOMED RESEARCH INTERNATIONAL*, *2018*, Article 5014859.

Abstract: The OHS services of SMEs are still in their start-up stage in China. As such, there is an absence of mature market norms, which in turn makes it difficult to guarantee the quality of OHS services. The government, as the "night watchman" of the market, is supposed to not only involve itself in the regulation of OHS service quality, but also introduce and implement proper regulatory strategies. This paper employs a computational experiment approach to construct an experimental platform based on multiagent interactions. By simulating the OHS service transaction activities of SMEs, this paper takes the perspective of dynamic evolution. From this perspective, we probe into the optimal regulatory strategy

covering the positive influence of government punishment, policy supports, and service quality ratings of the OHS services of SMEs. These strategies should be built on the foundation of proper punishment standard and intensity, proper support standard and intensity, and quality rating information disclosure.

39. Zhang, Z., Godefroy, S., Lyu, H., Sun, B., & Fan, Y. (2018). Transformation of China's food safety standard setting system - Review of 50 years of change, opportunities and challenges ahead [Review]. *FOOD CONTROL*, *93*, 106-111.

Abstract: Over the past 50 years, China's food safety regulatory system has undergone major changes. The growing importance of China's food production in both domestic and global markets has made it one of the major drivers of economic development. The identification of food safety as a national priority has driven modernization of the food safety legislative framework along with organizational change, leading up to the creation of China's National Center for Food Safety Risk Assessment (CFSA), as a key contributor to the food safety standard setting process. The National Food Safety Standards (NFSS) Framework was established, bencbmarked on international best practices and on the guidance of the Codex Alimentarius Commission (CAC), with a clear direction to base food safety standard setting on risk analysis principles and in particular on risk assessments supported by a robust foundation of scientific information and data collection that reflects China's context (food production practices and consumer patterns). This paper attempts to review the evolution of China's food safety standard setting over the past 50 years with a focus on changes that occurred during the last decade. The drivers for the make-up of the current system will be discussed. The paper will also attempt to review additional drivers of change and suggest possible future directions for modernization and continued evolution of the NFSS, in a manner that enables optimum protection for Chinese consumers, supports innovation by the food production sector and enhances confidence in Chinese food and agricultural products.

40. Zhou, Z. (2018). Understanding the administrative regulation on occupational health and trend in China [Review]. *JOURNAL OF OCCUPATIONAL HEALTH*, *60*(2), 126-131.

Abstract: With the immense economic growth and social development, China has gained worldwide attention. With the quick growth of industrialization, several international professionals are gaining interest in occupational management system and in the role of the Chinese Government in protecting the worker's health. The Law on Prevention and Control of Occupational Diseases and the Work Safety Law are the two most important laws in China, which highlight the responsibilities of the employer, employee, governmental agencies, authorized occupational health service agency, and other stakeholders. The State Council comprises two departments, namely, the State Administration on Work Safety (SAWS) and the National Health and Family Planning Commission (NHFPC), which are responsible for governing the occupational health work. A series of regulations and standards have been promulgated by the Chinese Government to encourage or instruct the employers to fulfill their responsibility; however, several issues persist related to occupational health work, including administrative, technological, and sociocultural aspects. At present, the Chinese Government wants to enhance the reform in both economic and administrative structures, and the adjustments for modifying and/or improving the occupational health regulatory system are expected. Notably, the occupational health work in China must be altered for better.

Contact NSTIC for Full Texts

Hanah Sharak

hsharak@kisr.edu.kw

Ext. 9674